

**EV-S550E**  
**RMT-456**

# SERVICE MANUAL

*AEP Model*



**Video 8**

**U MECHANISM**

**For MECHANISM ADJUSTMENTS, refer to the  
"8 mm Video MECHANICAL ADJUSTMENT  
MANUAL III" (9-972-732-11).**

## SPECIFICATIONS

### System

Video recording system

Rotary two-head helical scanning  
FM system

Audio recording system

Standard: Rotary head, FM system  
(2 channels)

PCM: PCM system (2 channels)

Colour system

DDR SECAM to PAL colour,  
convertible

Usable cassettes

8 mm video format cassettes

Tape speed

SP: approx. 20.051 mm/sec.  
LP: approx. 10.058 mm/sec.

Recording/playback time

SP: 1 hr 30 min.

LP: 3 hrs.

(with Sony P5-90 cassette)

Fast-forward/rewind time

Approx. 4 min. (with sony P5-90  
cassette)

### Tuner section

Channel coverage

VHF channels E2 – E4, E5 – E12  
UHF channels E21 – E69  
Cable TV channels S01 – S03,  
S1 – S20 and S21 – S41

Programming system  
PF output signal

60 program-memories  
UHF channels E30 to E39  
(variable), 75 ohms, unbalanced  
75 ohms, asymmetrical aerial  
socket

Aerial input

### PCM

Sampling frequency 31.25 kHz

Audio frequency 20 ~ 15 kHz

Dynamic range More than 88 dB

Wow and flutter Less than 0.005% RMS

### Inputs and outputs

Video inputs

Video in phono jack  
1 Vp-p, 75 ohms, unbalanced, sync  
negative

Video outputs

Euro AV 21-pin (pin 19)  
1 Vp-p, 75 ohms, unbalanced, sync  
negative

Video out phono jack  
1 Vp-p, 75 ohms, unbalanced, sync  
negative

Audio inputs

Phono jack X2  
– 7.5 dBs (0 dBs = 0.775 V rms)

Audio outputs

Euro AV 21-pin (pins 1 and 3)  
Output impedance less than 1

kilohm – 6 dBs with 10 kilohms  
load, unbalanced

Audio out phono jack X2  
– 7.5 dBs (372 mV) (at load  
impedance 47 kilohms) less than  
10 kilohms

– Continued on next page –

**STEREO VIDEO CASSETTE DECK**  
**SONY®**



Microphone input	Minijack – 60 dBs, for low impedance microphone	<b>Accessories supplied</b>	
Headphone jack	Stereo minijack – 26 dBs, 8 ohms		See page 12.
DC out for Camcorder	7.5 V DC, 1.6 A	<b>Remote Commander RMT-456</b>	
CONTROL L C	Stereo mini-mini jack	Remote control system	
<b>Timer</b>		Infrared control	
Clock	Crystal lock	Selectable VTR 1, 2 or 3	
Timer indication	24-hour cycle	3 V DC	
Timer setting	Only for recording 6 events/ 1 month max.	2 size AA batteries (IEC designation R6)	
<b>General</b>		Dimensions	Approx. 77.5 × 20 × 219 mm (w/h/d)
Power requirements	220 V AC, 50 Hz		Approx. 3 × ¾ × 8½ inches incl. projecting parts and controls
Power consumption	24 W	Weight	Approx. 170 g (2.2 oz) without batteries
Operating temperature	5°C to 40°C (41°F to 104°F)		
Storage temperature	–20°C to +60°C (–4°F to +140°F)		
Dimensions	Approx. 430 × 100 × 302 mm (w/h/d)		
	Approx. 17 × 4 × 12 inch		
Weight	Approx. 5.3 kg (11 lb ½ oz)		

## SAFETY CHECK-OUT

**After correcting the original service problem, perform the following safety checks before releasing the set to the customer:**

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splasher and bridges.
2. Check the interboard wiring to ensure that no wires are “pinched” or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.

### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  $\Delta$  OR DOTTED LINE WITH MARK  $\Delta$  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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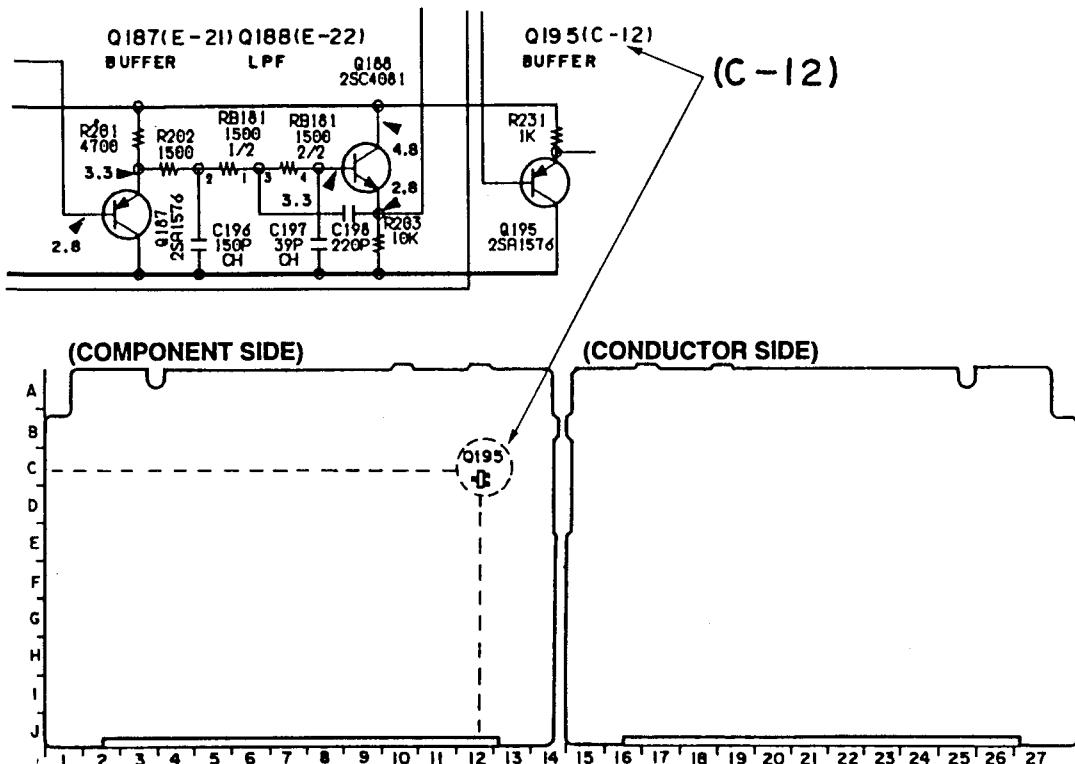
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## SECTION 1

### SERVICE NOTE

#### [SEMICONDUCTOR LOCATION]

In this service manual, the mounted locations of the semiconductors (IC, transistor, diodes) are indicated in red so shown below. This enables to find the location on the board easily when servicing.



## 1-1. SERVICE MODE

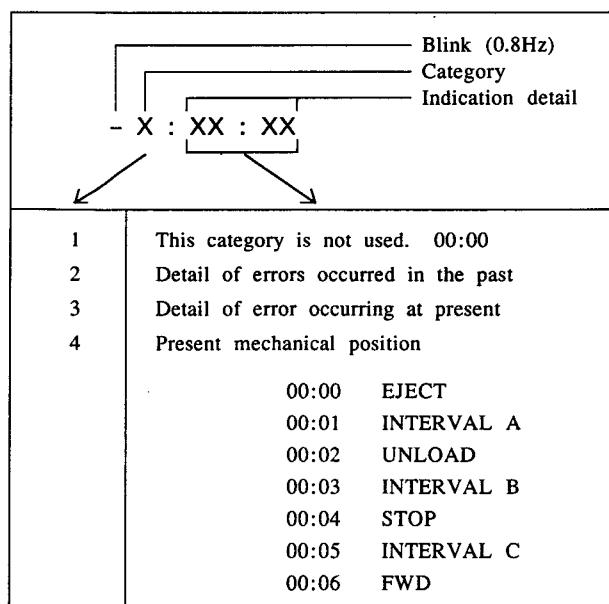
This equipment is provided with self-diagnostic function for the system control circuits. By selecting service mode, the state of error is indicated digitally on the FL indication tube. Use this function for service, failure analysis, etc.

### 1-1-1. How to select service mode

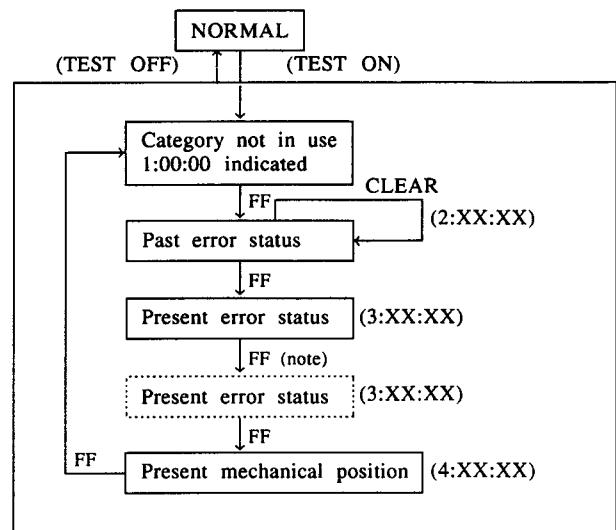
- 1) Remove the bottom plate of the unit.
- 2) Connect the TEST pin TP001 equipped on the pattern surface side of the ST-41 board, to GND. Thus, service mode is effected.
- 3) Every time the FF key (on the main unit or remote controller) is pressed, the category changes.
- 4) After completion of servicing, disconnect TP001 of board ST-41 out of the GND.

### 1-1-2. Indication methods

- Indication zones of the hour, minute and second counter in the FL indication tube are diverted.



### 1-1-3. Status transition diagram



**Note:** If there are several statuses of present errors, all are indicated.

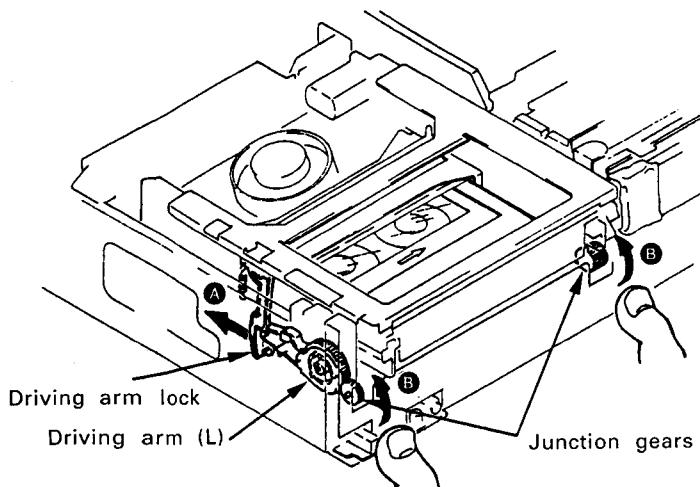
### Service mode error indication

Error state	PRESENT EMG.indication (-3:XX:XX)	LAST EMG.indication (-2:XX:XX)
No error	00:00	00:00
Loading motor	00:01	00:01
Reel error in unloading	00:02	00:02
Other REEL errors	00:03	00:03
Capstan error	00:04	00:04
FG error upon starting drum	(0) (1) (2)	00:05 01:05 02:05
No PG upon starting drum	(0) (1) (2)	00:06 01:06 02:06
FG error during normal drum operation	(0) (1) (2)	00:07 01:07 02:07
No PG during normal drum operation	(0) (1) (2)	00:08 01:08 02:08
Phase during normal drum operation	(0)	00:09

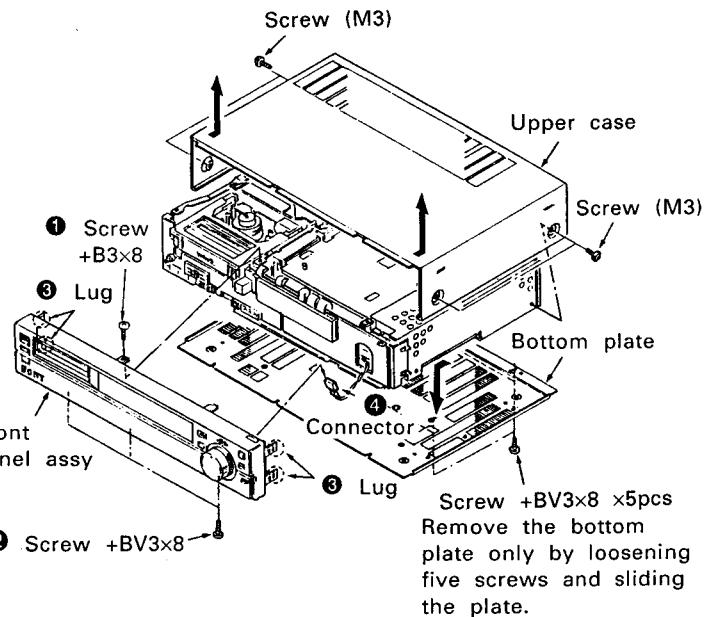
- (1) Loading  
(2) Upon unloading  
(3) Others

## 1-2. HOW TO REMOVE CASSETTE WHEN FAILED WITH CASSETTE STILL IN

- ① If the tape cannot be taken out while being wrapped onto the drum, remove the CM-13 board from the lower side of the mechanical unit, rotate the capstan motor wheel in any direction to turn the reel in the S or T side and house the tape. After completion of housing, operate ②.
- ② When the tape is housed in the cassette half and cannot be taken out:
  - 1) Remove the front panel and remove the assy of the L frame and driving arm (L) equipped in the left side of the cassette control unit, in the direction of the arrow A.
  - 2) Rotate the junction gears in the direction of the arrow B with your both thumbs.

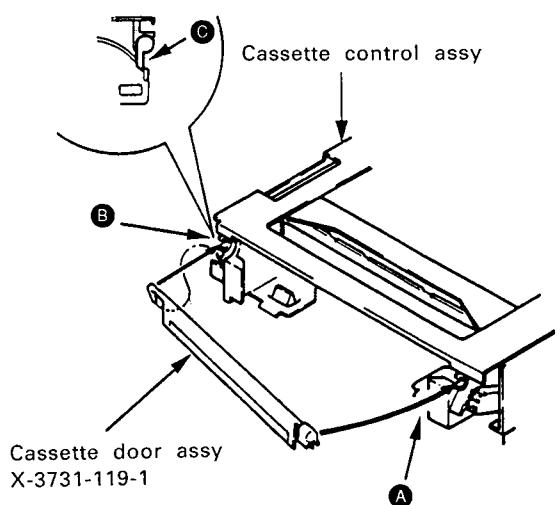


## 1-3. REPLACING of OUTER FITTINGS



## 1-4. REPLACING of CASSETTE DOOR ASSY

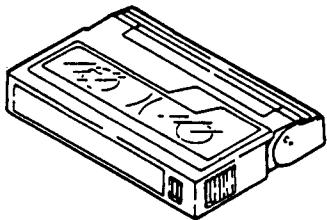
- 1) Remove the front panel.
- 2) First remove Part A towards you and then remove Part B.
- 3) For mounting, first engage the lug of Part C and then Part B. Mount Part A so that the door can hang substantially vertically.



## 1-5. HOW TO CLEAN VIDEO HEAD AND RUNNING SYSTEM

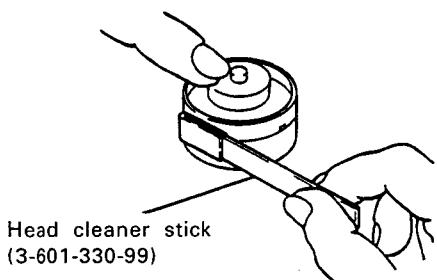
### Method 1 Cleaning with cleaning tape

- Use the cleaning cassette V8-25CLH. (Before using it, be careful to read the manual attached to the cleaning cassette.)



### Method 2 Cleaning with cleaning liquid

- ① Remove the upper case of the video deck.
- ② Coat the cleaning liquid onto the head cleaner stick (Ref No. 3-601-330-99).
- ③ Referring to the right, clean the video head by lightly attaching the head cleaner stick while slowly rotating the rubber part of the upper rotation drum.



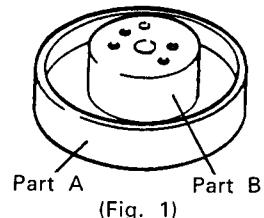
### (Cleaning of running system)

- ① Coat the cleaning liquid onto the head cleaner stick.
- ② Clean each guide and pinch roller coming in direct contact with the tape, using the head cleaner.

## 1-6. REPLACING of UPPER ROTATION DRUM

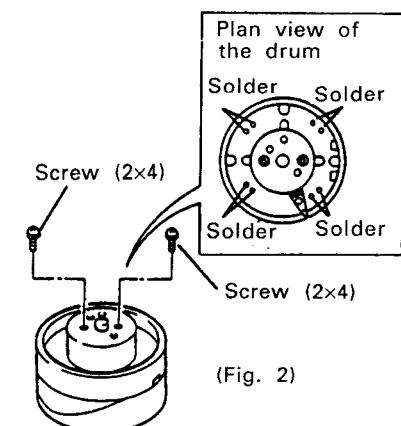
### Method 3 Precautions

- Be extremely careful to handling the video head and the terminal.
- Referring to Fig. 1, don't touch the side surface (Part A) directly with your finger tips but hold the upper part (Part B) to take the upper rotation drum.

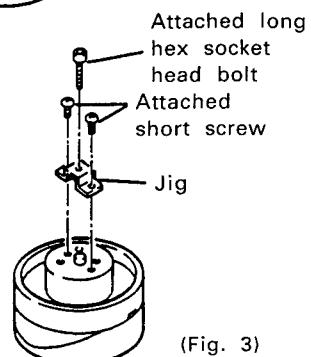


### Removing of upper rotation drum

- ① Referring to Fig. 2, remove 2 short screws ( $2 \times 4$ ).
- ② Referring to Fig. 2, completely remove the soldering at 8 places on the board of the upper rotation drum.



- ③ Referring to Fig. 3, fix the repairing jig (packed in the upper rotation drum) using 2 short screws attached to the jig and screw in the attached long screw rod. Thereby, the upper rotation drum is removed.

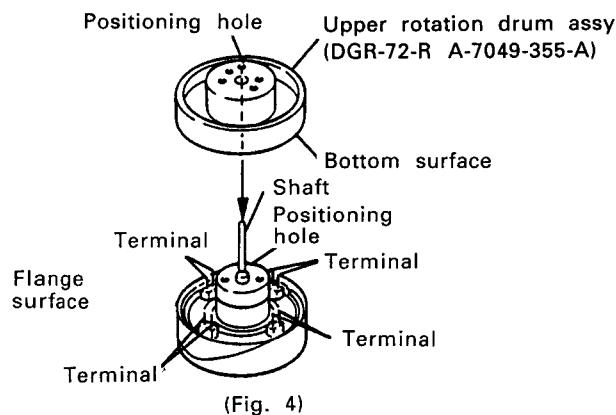


(Fig. 3)

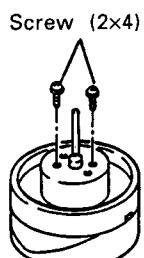
### Mounting of new upper rotation drum

- ① Referring to Fig. 4, clean the flange surface and the bottom surface of the new upper rotation drum.
- ② Referring to Fig. 4, insert the shaft attached to the jig into the positioning hole of the lower drum, insert the shaft into the positioning hole of the new upper rotation drum and softly set the upper rotation drum.

- ⑤ Referring to Fig. 2, solder 8 places on the board of the upper rotation drum and 8 terminals.
- ⑥ After completion of replacing the upper rotation drum, clean the video head and the running system using the head cleaner stick referring to "Method 2 Cleaning of Video Head and Running System."



- ③ Lightly push the upper rotation drum manually with the shaft still inserted in the positioning hole. However, if it cannot be inserted completely, alternately tighten 2 long screws ( $2 \times 5$ ) referring to Fig. 5 to fix the upper rotation drum.
- ④ Remove the shaft already inserted before. If removing of the shaft is sluggish at that time, repeat operations from ②.



## SECTION 2

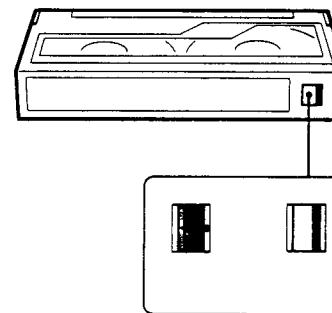
### GENERAL

This section is extracted from instruction manual.

## Features

- **PCM audio recording system**  
This feature allows you to take advantage of the latest technology in high-grade audio systems.
- **Hi-Fi stereo recording and playback**  
You can enjoy dynamic Hi-Fi stereo sound by connecting your audio system to this VTR.
- **EDIT SHUTTLE for easy editing**  
You can search for a desired editing point quickly by turning the EDIT SHUTTLE control clockwise or counterclockwise.
- **Useful tape counter**  
The tape counter clearly indicates the number of hours, minutes and seconds that have elapsed during recording or playback operations.
- **Easy editing with a Sony 8mm Camcorder**  
The LINE IN AUDIO/VIDEO and DC OUT jacks on the front panel allow for easy connection of the Sony 8mm Camcorder. The DC OUT (7.5V, 1.6A) jack supplies power for the camcorder so that it can easily be used to perform editing.
- **CONTROL L (LANC) jack**  
When using this jack to connect another video peripheral such as a VTR, tape transportation for the other peripheral can easily be controlled on this unit. Furthermore, you can control both devices simultaneously for a bilateral synchronized editing.
- **REC LEVEL control for audio dubbing**  
This control knob is used to adjust the audio level for each scene when audio dubbing.
- **Remote Commander with LCD**  
You can preset this VTR to show or record programs (timer setting) automatically using the Remote Commander with LCD. Almost all operations can be done by using this device.
- **Six event timer**  
Each month up to six preselected programs can be set for recording with this timer.

## Cassette Care



### To prevent Accidental Erasure

Slide out the tab on the cassette so that the red colour appears.  
To re-record on the cassette, slide the tab back.

### Tape Speed

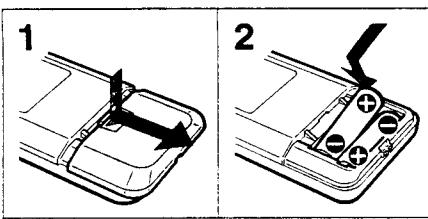
The LP mode is twice as long as the SP mode. For better picture, recording in the SP mode is recommended.  
During playback, the mode in which the tape was recorded is selected automatically.

Cassette used	Tape speed	
	SP	LP
P5-15MP	15 min.	30 min.
P5-30MP	30 min.	1 hour
P5-60MP	60 min.	2 hours
P5-90MP	90 min.	3 hours

### Notes

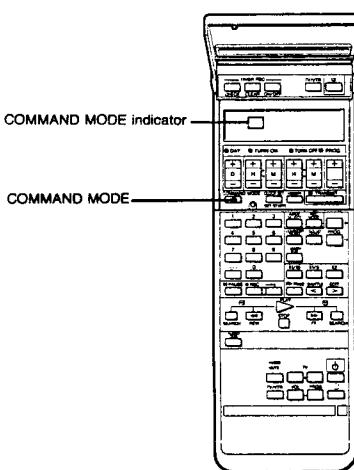
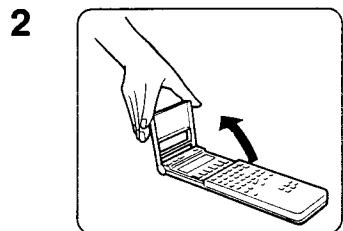
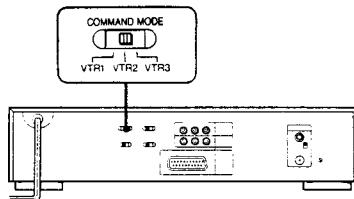
- Always insert the cassette in the correct direction.
- Never insert anything in the small holes on the rear of the cassette.
- Store cassettes in their cases and keep them in an upright position to prevent intrusion of dust and uneven winding.
- To record from the beginning of the tape, run the video camera recorder for about 15 seconds at the beginning of a cassette before recording. It will avoid missing the starting point during playback on a video cassette recorder.
- When the VTR is not in use, remove the cassette.

## Preparing the Remote Commander



### Battery Insertion

- 1 Slide and remove the cover.
- 2 Insert two R6 (size AA) batteries with the correct polarity.
- 3 Close the cover.  
The clock on the Remote Commander will read "— : —".  
Set the date and clock referring to "Setting the Clock".



### Setting the Remote Commander to control your VTR

This Remote Commander can be used to control three different types of Sony VTRs. The Remote Commander identifies each VTR by its command mode setting.

#### Setting the command mode on this VTR

- 1 Set the **COMMAND MODE** selector on the rear panel of the VTR to the desired position, VTR1, VTR2 or VTR3. Set normally to VTR2.
- 2 Press the **COMMAND MODE** button on the Remote Commander to display the same position, which has been set on the VTR, in the LCD. Then the VTR can be operated with the Remote Commander.

#### Remotely controlling other Sony VTRs

- Controlling another VTR equipped with the command mode selector  
Set different command modes for this VTR (VTR2, for instance) and the other VTR (VTR1). Select the identical command mode set on each VTR on the Remote Commander. For instance, select VTR1 on the Remote Commander to control the other VTR and VTR2 to control this VTR.
- Controlling another VTR without a command mode selector  
Change the setting on the Remote Commander according to each type of VTR as follows:  
VTR1: Sony Betamax **VHS** VTRs  
VTR2: Sony 8mm VTRs (this VTR)  
VTR3: Sony **VHS** VTRs

#### Note on batteries

- On battery life  
Under normal operation, batteries will last for about 6 months. When the batteries are exhausted, the remote function will not be operated when the buttons on the Remote Commander are pressed. Replace all the batteries with new ones.
- Insert batteries correctly according to their polarities.
- Do not use a new battery and an old one together. Batteries of different types also should not be used simultaneously.
- If the Remote Commander is not to be used for a long time, remove the batteries to avoid possible damage from battery leakage.

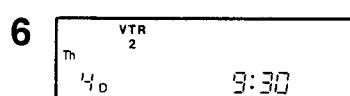
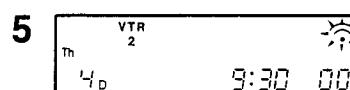
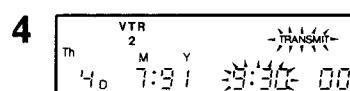
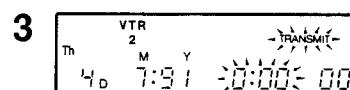
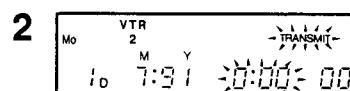
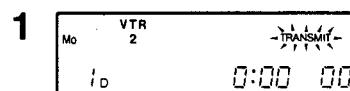
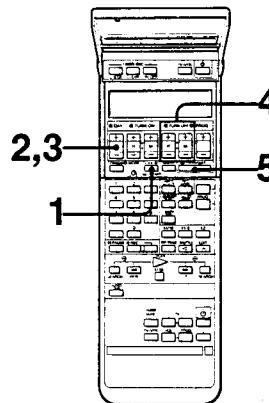
## Setting the Clock

Set the date and time (clock) on the Remote Commander. Then transmit it to the VTR.

The time and date between the years 1990 and 2005 can be set.

### Operation

Example: To set to 9:30, Thursday, July 4, 1991.



#### When "0:00" is blinking on the unit

If the power is interrupted for more than one hour, "0:00" will blink in the display when the power is restored. You will have to reset the date and clock again.

#### When a short beep sounds repeatedly

The VTR is in the timer recording or quick timer recording mode and the setting cannot be transmitted.

#### When the batteries are replaced

Reset the clock correctly.

#### When the clock on the Remote Commander is correct but the one on the unit is incorrect

- Open the upper cover of the Remote Commander and press the **CLOCK SET** button. The correct time is displayed in LCD.
- Point the Remote Commander to the unit and press the **TRANSMIT** button. The present time is correctly transmitted in hours, minutes and seconds.

## Location and Function of Parts and Controls

### Front panel

Refer to the pages indicated in ● for details.

AUDIO DUB Indicator

HI-FI ST (stereo) Indicator

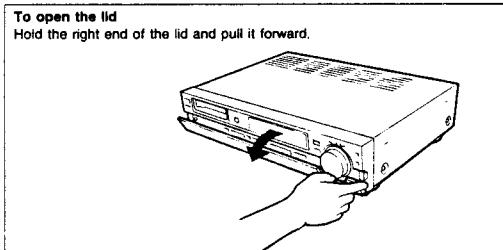
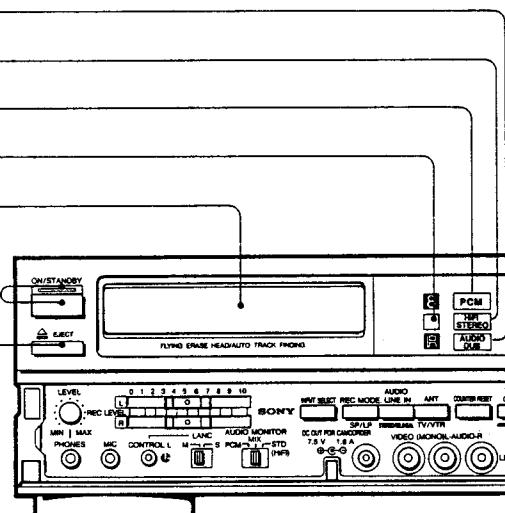
PCM indicator

Remote sensor

Cassette compartment

ON/STANDBY switch and indicator

▲ EJECT button



### Supplied accessories

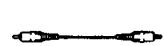
Remote Commander  
RMT-498 (1)



Audio connecting cord (1)  
(phone 2 ↔ phone 2)



Video connecting cord (1)  
(phono 1 ↔ phono 1)



Size AA (R6) batteries (2)



LANC cable (1)



75 ohm coaxial cable for TV (1)



DC In cord (1)



Screwdriver (1)



### Tape transport buttons

◀◀ REW (rewind) button, ▶▶ PLAY (playback) button, ▶▶ FF (fast-forward) button, ■ STOP button, ■■ PAUSE/STILL button

### Display window

PROGRAM +/− buttons

SHUTTLE A-B switch (2)

EDIT STANDBY button and Indicator (2)

SYNCHRO EDIT button and Indicator (2)

EDIT SHUTTLE control and Indicator (2)

RECORDER button and Indicator (2)

PLAYER button and Indicator (2)

### CL (reset) button

If the VTR does not operate even when pressing the operating button, press this button with a pointed object such as a ball point pen. When this button is pressed, all of the information stored in the VTR memory is cleared.

### SHARPNESS control (2)

Adjust the sharpness of the picture if necessary. Normally set this at the center detent position.

SLOW/STILL ADJ (adjustment) buttons (2)  
Adjust the still or slow-monitor picture if necessary.

SET button (2)

NORMAL/CATV button (2)

TUNING +/− buttons (2)

CLEAR button (2)

### EDIT button (2)

When editing a tape, press this button so that the EDIT indication lights in the display window.

### AUDIO DUB button (2)

Press to record on the PCM track of any recorded video cassette tape.

### ● REC (recording) button

**Front panel**

**AUDIO LINE IN (STEREO/BILINGUAL) button** ①  
Use this button when editing the bilingual broadcast recorded tape from another VTR.

**REC MODE SP/LP (recording mode) button**  
This selects the recording speed, SP or LP. The recording time of any given cassette in the LP mode is 2 times that in the SP mode. The playback speed is automatically set regardless of the setting of this selector.

**INPUT SELECT button**  
Press to display the desired input signal indication in the window.  
**TUNER:** To record TV programs  
**LINE:** To record video/audio signals from the LINE IN 1 or 2 VIDEO/AUDIO jacks or to dub only audio signals from LINE IN AUDIO or MIC jack.

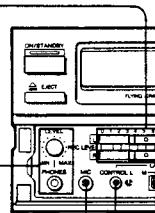
**REC LEVEL controls** ②  
Use to adjust the recording level.  
When dubbing the audio signals, use to adjust the input level from the LINE IN AUDIO.

**PHONES jack (stereo minijack) and LEVEL control**  
Connect stereo headphones. The volume can be adjusted with the LEVEL control.

**MIC (microphone) jack (minijack)** ③  
To record from this jack, display "LINE" and "L1" or "L2" by pressing the INPUT SELECT button.

**CONTROL L C (LANC) jack** (stereo mini-minijack)

**LANC switch** ④  
**M:** Controls other peripherals or VTR with this VTR.  
**S:** Controls this VTR with other peripherals or VTR.



**About the C**  
C means the LANC connector.  
LANC stands for Local Application Control Bus System. The LANC connector is used for controlling the tape transport of video equipment and peripherals connected to it. This connector has the same function as the connectors indicated as CONTROL L or REMOTE.

**ANT TV/VTR button**

Press to view the program selected on the recorder. The VTR indicator appears in the display window (VTR mode). To view a TV program while recording another, press this button again. The VTR indicator disappears (TV mode).

**COUNTER RESET button** ⑤  
Press to reset the tape counter to zero.

**TIMER CHECK button** ⑥  
Press to check the contents of the timer presettings.

**TIMER REC ON/OFF button** ⑦  
**QUICK TIMER button** ⑧

**VPS (Video Program System) switch** ⑨  
Set to ON activate the VPS in the timer recording.

**LINE IN (Input) 2 VIDEO/AUDIO jacks (phono jack)**

**DC OUT FOR CAMCORDER** ⑩  
Use supplied DC cable for COMCORDER connection.

**AUDIO MONITOR selector** ⑪

During playback or recording, set to the appropriate position to monitor the desired sound.

**PCM:** to play back the sound on the PCM track. When nothing is recorded on the PCM track, the recorded sound on the standard track is played back regardless of the position of this selector.

**MIX:** to play back the sound on the PCM and standard tracks simultaneously.

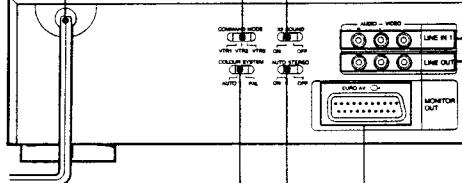
**STD:** to play back the sound on the standard track.

**Rear panel**

**×2 SOUND switch** ⑫  
To hear the sound in double speed playback, set the ×2 SOUND switch on the VTR to ON. The sound is also played back in double speed. If the sound is unnecessary, set the switch to OFF.

**COMMAND MODE selector** ⑬  
When operating this VTR with the Remote Commander, select the same position as this on the Remote Commander.

**AC power cord**

**COLOUR SYSTEM switch**

Normally set to AUTO. According to the TV program, colour system will be switched automatically to PAL or DDR SECAM. If the signal is too weak or the picture is distorted, set the switch to PAL. DDR SECAM programs will be displayed in black and white.

**AUTO STEREO switch** ⑭

Normally set it to ON.  
**ON:** Automatically set to stereo or monaural broadcast.  
**OFF:** Always in monaural mode even if being set to stereo broadcast.

**LINE IN (input) 1 VIDEO/AUDIO jacks (phono jack)**

Connect to the video and audio outputs of a TV, VTR, CD player, etc.

**AERIAL OUT socket**  
Connect the aerial input of the TV receiver.

**AERIAL IN socket**  
Connect the aerial cable.

**LOCAL/DX switch** ⑮  
Normally set to DX. If the TV signal is very strong, set the switch to LOCAL.

**RF CHANNEL screw** ⑯  
If there is interference on the factory-preset channel for RF output and the output signal from this unit cannot be displayed clearly on the TV screen, adjust the screw with the supplied screwdriver.

**LINE OUT (output) VIDEO/AUDIO jacks (phono jack)**  
Connect to the video and audio inputs of a TV, VTR, amplifier, etc.

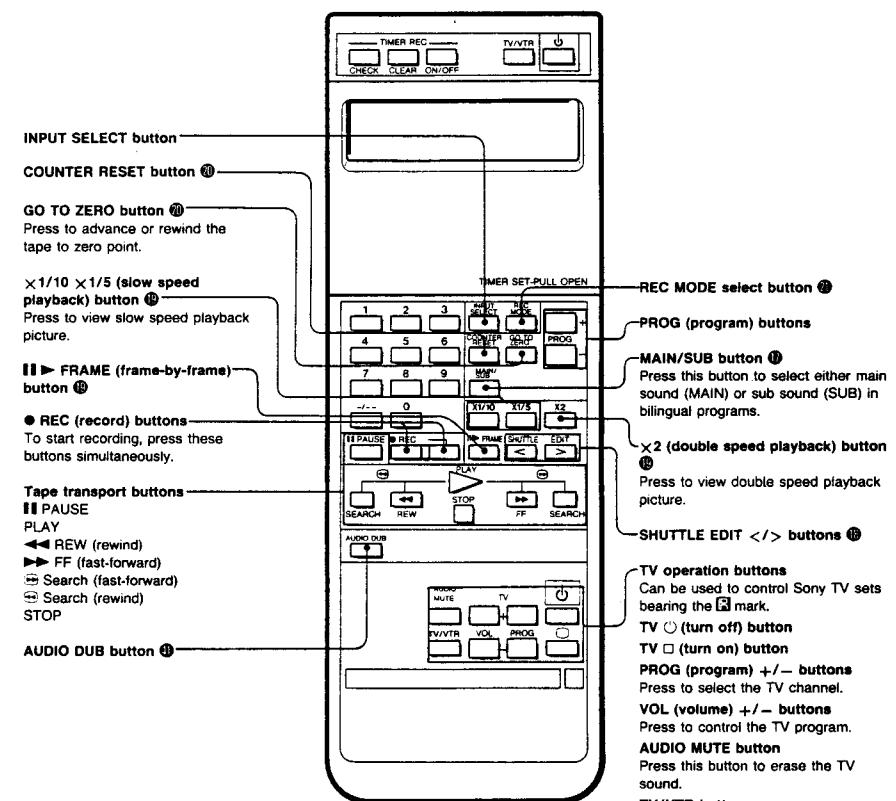
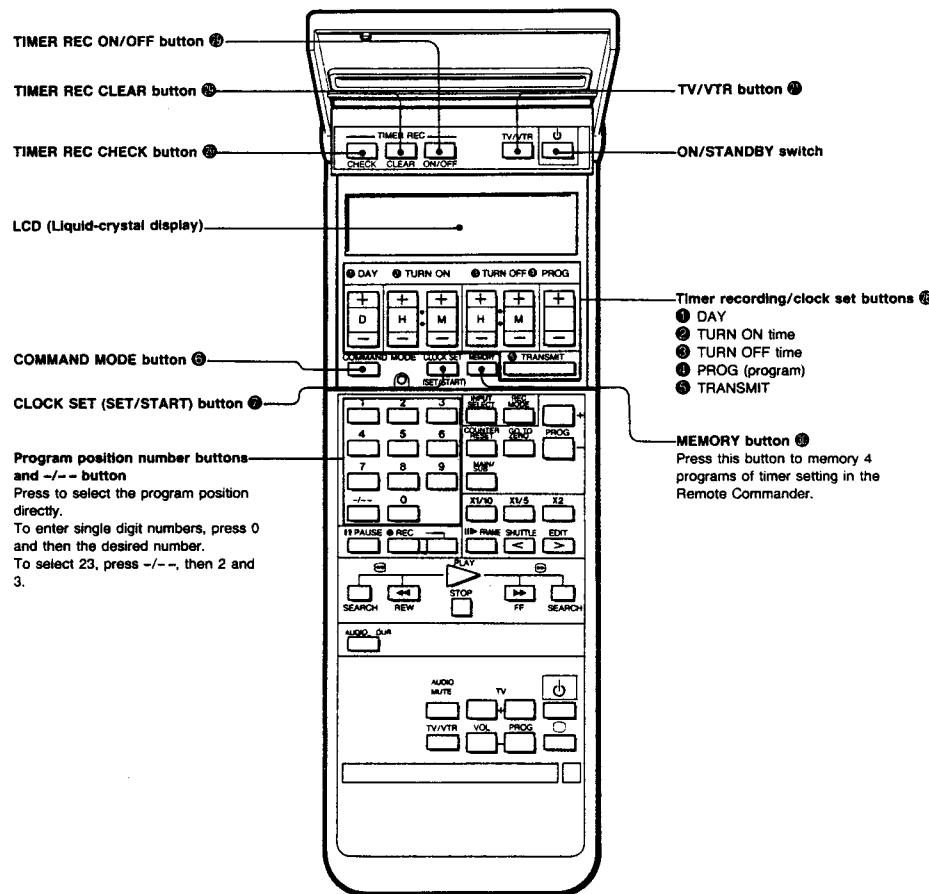
**EURO-AV connector (21-pin)** ⑰  
Connect to the 21-pin connector of a VTR or a TV/monitor, or to the audio/video input of these units with an appropriate connecting cable.

## Remote Commander RMT-456

Almost all operations can be done with this Remote Commander.

Buttons on this Remote Commander have the same functions as those on the VTR.

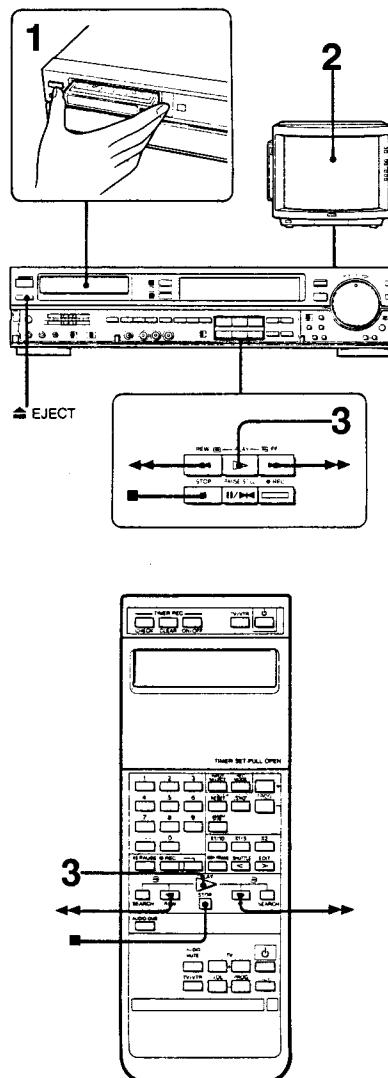
- Operate the Remote Commander keeping the upper cover closed except when adjusting the Clock Setting or Timer Setting.
- INPUT SELECT button and REC MODE select button
- When the upper cover is closed, these are used for setting the input select and the recording mode at present respectively. When opened, the input select and the recording mode to be preset are selected respectively by these buttons.



### Remote Commander Precautions

Do not let sunlight or light from a powerful artificial light source fall directly on the Remote Commander sensor on the front panel as it may interfere with operations or damage the sensor.

# Playback



Playback can be controlled with the identically marked buttons on both the unit and the Remote Commander. For details on connecting, see page 42.

## Playing a Tape

- 1 Insert the cassette slowly into the unit. The power turns on automatically.
- 2 Turn on the TV and select the program, or select the input for the VTR.
- 3 Press the ▶ PLAY button. ▶ appears in the display window and playback starts.

### Caution

Beware that children do not insert their fingers into the cassette compartment. Doing this may cause injury.

To stop playback  
Press ■

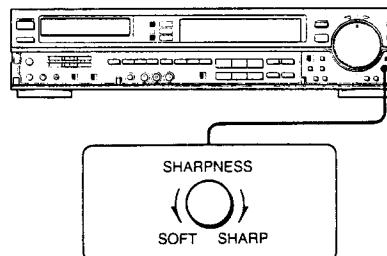
To rewind the tape  
Press ▷◀. ▷◀ appears in the display window on the unit.

To advance the tape rapidly  
Press ▷▷. ▷▷ appears in the display window on the unit.

To eject the cassette  
Press ▲ EJECT on the unit. Pressing the ▲ EJECT button when the VTR is turned off will turn the unit on, eject the cassette, and then turn it off again.

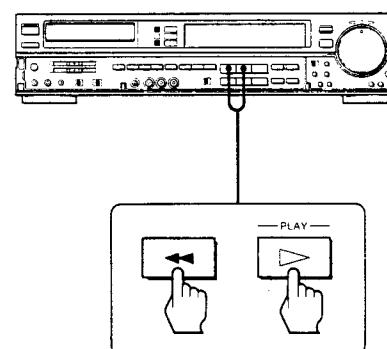
▲ EJECT does not function during recording or recording pause mode.

**Note**  
When the end of the tape is reached during playback, the VTR automatically rewinds the cassette.



### Picture adjustment

Turn the SHARPNESS control toward SOFT or SHARP. Normally set to the center of the control.



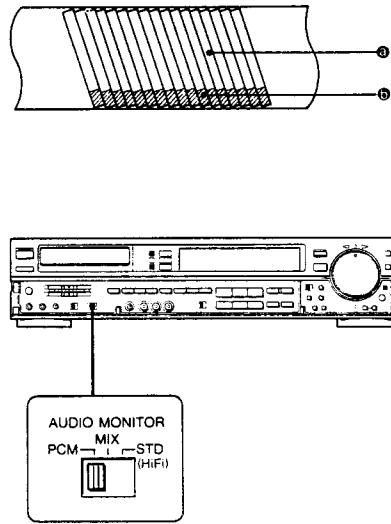
## Playing back a tape from the beginning after rewinding - Auto Play

While pressing the ▷◀ REW button, press the ▶ PLAY button. The "AUTO" indication will be displayed in the display window on the unit.

### To index through a tape

Press the COUNTER RESET button at the beginning of a tape to set the counter to "0H00M00S". A convenient way to search a desired scene later is to make a note of the counter reading at that point. (Refer to page 20.)

**When a blank tape is played back,**  
The picture will not appear and the tape counter will not function.



#### Dubbed Tape Playback

Enlarged diagram of tape  
 ① Standard track — Original sound  
 ② PCM track — Dubbed sound

Sound to be played back	Position of AUDIO MONITOR selector
Dubbed sound	PCM
Original sound	STD
Both sounds mixed	MIX

#### When no sound during playback or the PCM Indicator blinks:

When a tape which has been recorded on a video camera recorder or a VTR without the PCM function is played back on this unit, the sound may not be heard or be heard only intermittently.

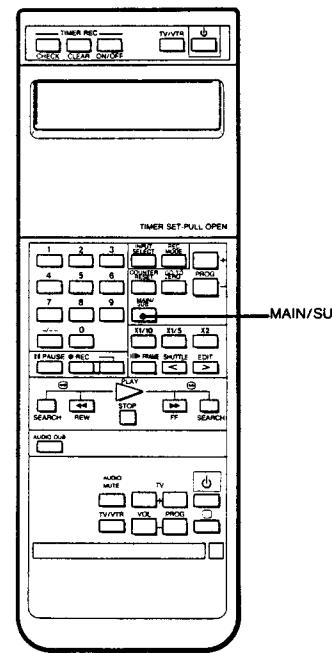
In such a case, select STD on the AUDIO MONITOR switch. The PCM indicator may keep blinking but it will not affect the sound.

#### When a TV without VIDEO/AUDIO Input is connected:

To monitor the playback sound in stereo mode, connect a stereo system additionally.

#### When no recording is on the PCM track:

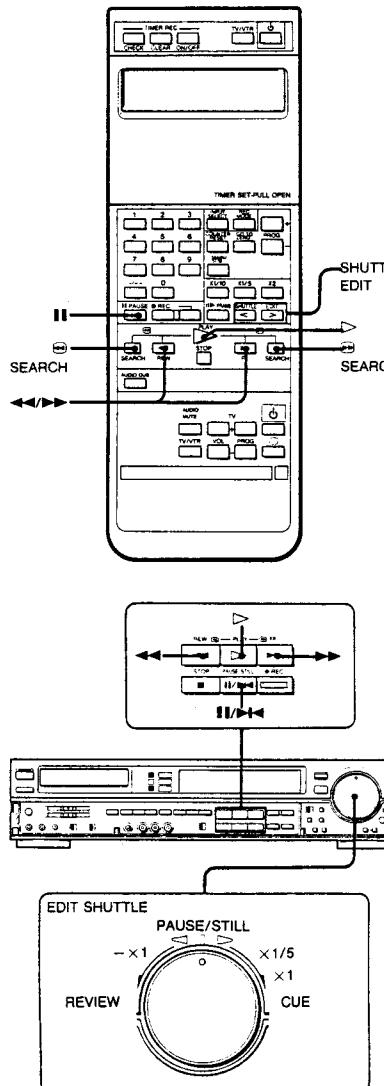
If the AUDIO MONITOR switch is selected to PCM or MIX, the standard track will be played automatically.



#### Selecting the Playback Sound of a Stereo/Bilingual Tape

Choose the desired sound to be played back with the MAIN/SUB button on the Commander.

Type of tape	MAIN/SUB button and Indicator
Stereo	<p>Each press changes the playback sound to:</p> <p>STEREO (stereo sound) ↓      L (left channel)      R (right channel)</p>
Bilingual	<p>Each press changes the playback sound to:</p> <p>MAIN/ (main sound) ↓      SUB/ (sub sound)      MAIN/SUB/ (main/left channel and sub/right channel)</p>



### Playing back In Various Modes

#### Still picture

Press the **II/PAUSE** PAUSE/STILL button on the unit or **II PAUSE** button on the Commander during playback. The **II** will appear in the display window. To resume normal playback, press the **> PLAY** button, or the **II/PAUSE** PAUSE/STILL button or **II PAUSE** button on the Commander again.

When the pause mode lasts for more than approximately 7 minutes, it will be automatically released and the VTR will resume the playback mode.

#### Locked picture search (Commander only)

Press the **SEARCH** **<** or **>** button during playback or in still picture mode. To resume normal playback, press the **> PLAY** button.

#### Picture search

Keep pressing the **<< REW** or **>> FF** button during playback or in still picture mode. Release the button for normal playback.

#### FR picture search

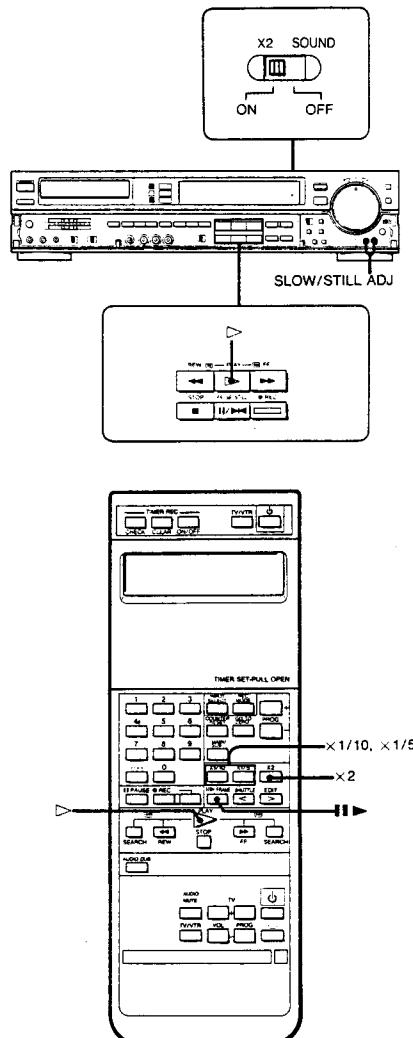
Press **>>** during fast-forward or **<<** during rewind mode. The fast-forward or rewind mode picture can be viewed while the button is pressed.

**Using the EDIT SHUTTLE (Main unit only)**  
Various playback modes can be selected by holding the EDIT SHUTTLE in the position illustrated. Turn it clockwise for forward direction and counterclockwise for reverse direction. Releasing it will place the picture in the pause/still mode. To resume normal playback, press **II** or **>**.

#### Using the SHUTTLE EDIT (Commander only)

Rewind playback (**<**) or normal playback (**>**) can be done by holding down the **<** or **>** button on the Commander in still picture mode.

Releasing it returns the VTR to still picture mode.



#### Double speed playback (Commander only)

To view the double speed playback picture, press the **×2** button during playback or still picture mode. If the **×2** SOUND switch on the rear panel of the unit is set to ON, the sound is also played in double speed. If OFF, no sound is heard.

To resume normal playback, press the **> PLAY** button.

#### Slow speed playback (Commander only)

Press the **X1/10** or **X1/5** button during playback or in still picture mode.

To resume normal playback, press the **> PLAY** button.

#### Frame-by-frame playback (Commander only)

Press the **II/FRAME** button in still picture mode.

To resume normal playback, press the **> PLAY** button.

#### If the picture shakes during double speed playback or still picture:

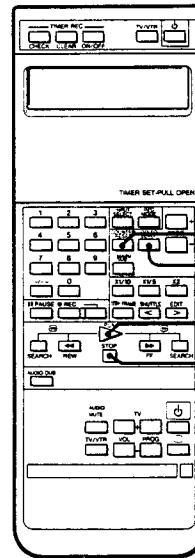
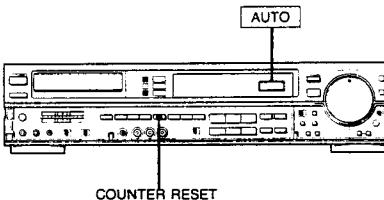
Press the SLOW/STILL ADJ buttons to adjust to the least shaking point.

#### If noise bars appear on the screen during slow playback:

Press the SLOW/STILL ADJ buttons to squeeze them out. Adjust this for each playback speed (SP/LP).

#### Notes

- Noise bars will appear and the sound will be muted in the high-speed playback mode.
- Horizontal bars appear at the top and bottom on the screen and sounds are not heard during **-x1** playback.
- When a cassette recorded in SP mode is played back in still picture or picture search mode, the picture may appear in black and white or shake depending on the TV being used.
- When a cassette is recorded in SP mode, noise bars will be wider than those on LP-recorded cassettes.



### Using the Tape Counter

The COUNTER RESET buttons on the unit and on the Remote Commander have the same function. Press the COUNTER RESET button at the beginning of the tape so that the counter shows "0H00M00S". By noting the counter reading at a particular point, you can easily find that point later by referring to the tape counter.

#### To locate a particular point on the tape (auto play)

- 1** During playback or recording, press the COUNTER RESET button at the point to be located later. The counter is reset to "0H00M00S".
- 2** When playback or recording is finished, press the ■ STOP button to stop the tape.
- 3** Press the GO TO ZERO and ▶ PLAY buttons. The "AUTO" indication will be displayed. The tape is rewound or advanced to the approximate "0H00M00S" point and played back automatically.

#### Notes

- When only the GO TO ZERO button is pressed, the tape will stop at the approximate "0H00M00S" point (tape return).
- The GO TO ZERO functions only when the counter reading is beyond  $\pm 1$  minutes.
- The counter reading and the point of the tape may not correspond exactly. Use the counter as a guide.
- The counter does not operate for a blank, unrecorded portion of a tape.
- There will be a time lag of several seconds on the counter reading after repeated fast-forward and rewind operations.
- There will be also a time lag of several seconds when the tape recorded in LP and SP modes mixed or the tape having a blank portion between the recorded portions is played back.

## Recording a TV Program

#### Before recording

- Turn on the TV and select the channel for the unit or select the input for the VTR\*.
- Press the INPUT SELECT button so that the TUNER indication appears.
- Set the AUTO STEREO switch to ON.
- If your TV/monitor is equipped with video/audio inputs, select the correct input on your TV/monitor.

#### Operation

- 1** Insert a cassette. The VTR will be turn on.
- 2** To select the recording mode, SP or LP. Press the REC MODE button.
- 3** Select VTR on the TV/VTR button when the VTR is connected to TV without video/audio input jacks. (VTR connection is made via the AERIAL OUT socket.) The "VTR" indication will be displayed.
- 4** Select the program position to be recorded.
- 5** Start recording by pressing the REC button(s). To do this on the Commander, press both REC buttons simultaneously.

To stop recording  
Press the ■ STOP button.

To stop recording for a moment:  
Press the ■ PAUSE/STILL or ■ PAUSE button on the Commander.  
To resume recording, press the button once again. (To protect the tape and video heads, the pause mode is cancelled after about 7 minutes and the unit will enter the stop mode automatically.)

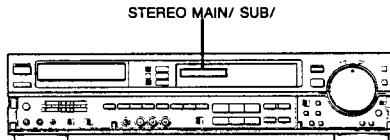
When the end of the tape is reached by recording, the VTR automatically rewinds the tape to the beginning and enters the stop mode. The power remains on.

If the tape is ejected when the REC button(s) are pressed  
The tab on the cassette is slid out. Slide the tab in, or use a new cassette.

#### Viewing One TV Program While Recording Another

Press the TV/VTR button so that the VTR indication disappears. Select the channel you want to view on the TV.

If your TV is equipped with a TV/VTR INPUT selector, simply select TV and then the desired channel on the TV.



#### Recording Stereo or Bilingual

This VTR receives and records stereo/bilingual programs based on the "Zweiton" system adopted in West Germany. To receive "Zweiton" broadcasts, select AUTO STEREO switch to ON.

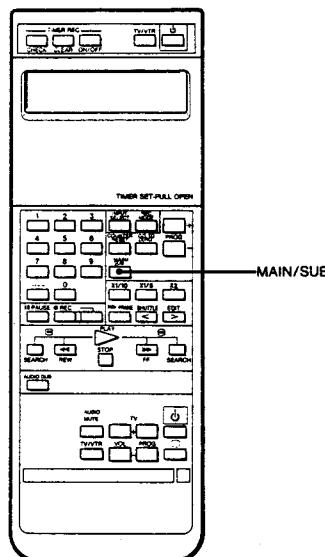
##### When receiving a stereo program

The "STEREO" indication will be displayed in the display window. The MAIN/SUB button does not function for the stereo program of the Zweiton system.

##### When recording bilingual program

The "MAIN/" indication will be displayed in the display window. If desired, it is possible to select the monitor sound. Press the MAIN/SUB button repeatedly until the desired sound is heard. The sound is selected cyclically in the following order.

Display	Sound to be heard
MAIN/	Main sound
SUB/	Sub sound
MAIN/ SUB/	Main sound on the left channel and sub sound on the right channel

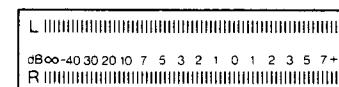
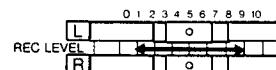
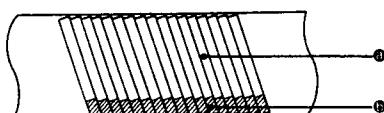


##### Recording is made as follows:

A stereo or bilingual program will be recorded on the standard track (Hi-Fi stereo) and PCM track as listed below, regardless of the sound being monitored.

Track	Sound to be recorded	
	Stereo	Bilingual
PCM and Standard (Hi-Fi)	Left channel	Left channel
	Right channel	Right channel

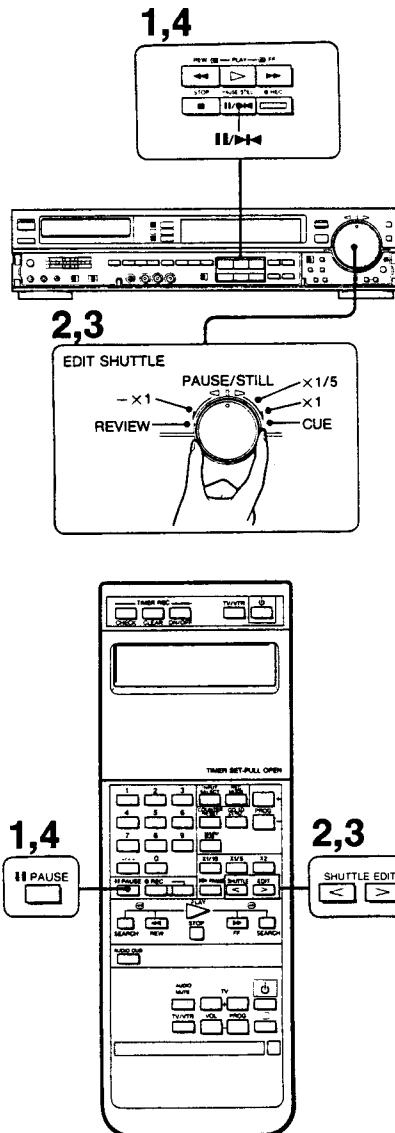
If the received stereo signals are noisy  
Set the AUTO STEREO switch to OFF.  
The sound will be monaural.



#### Adjusting the Recording Level

- Recording from the tuner on the unit  
To obtain the best recorded sound, set the REC LEVEL controls at 5 position.
- Recording from an external sound source  
Adjust the level on the REC LEVEL controls according to the source.
- Appropriate recording level  
Medium or lower frequency signals from a source (e.g.vocal)  
Adjust so that the element at the 0 dB level lights at the highest signal level.  
Medium or higher frequency signals from a source (e.g. trumpet, treble sound of violin)  
Adjust so that the element at the -1 to -3 dB level lights at the highest signal level.

## PCM Audio Recording



### Cutting Out a Scene by Recording Over It

#### Overview

Using the recording pause mode, you can stop recording when an unwanted scene appears and then resume recording smoothly.

To easily reach an unwanted scene by rewinding and/or advancing the tape, use the SHUTTLE EDIT buttons on the Commander or the EDIT SHUTTLE on the unit. The unit will then enter the recording pause mode and allow you to resume recording smoothly.

#### Operation

- 1 While recording TV broadcast, press **PAUSE** on the Commander or **PAUSE/STILL** on the unit.  
The unit will enter the recording pause mode.
- 2 Rewind the tape with the **SHUTTLE EDIT </>** buttons on the Commander or the **EDIT SHUTTLE** control on the unit to locate the point to resume recording.

#### Using the EDIT SHUTTLE

Turn counterclockwise to search in reverse.  
Turn clockwise to search in forward.  
The playback speed is as indicated in the illustration.

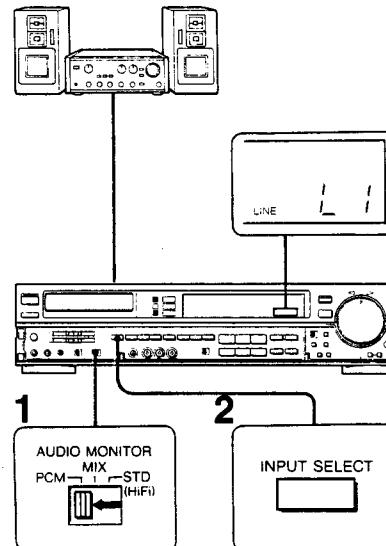
#### Using the SHUTTLE EDIT </>

Press **<** to reverse the picture (**X1** speed).  
Press **>** to advance the picture (**X1** speed).

- 3 Release the **SHUTTLE EDIT** button or the **EDIT SHUTTLE** control at the desired point.  
The unit enters the recording pause mode after approximately 2 seconds.
- 4 Press the **PAUSE** button on the Commander or the **PAUSE/STILL** button on the unit when you wish to resume recording.

#### Note

To protect the tape and video heads, the pause mode will be automatically released after about 7 minutes and the unit will enter the stop mode.



Only the audio signals are recorded on the PCM track.

Normally adjust the REC LEVEL control to 5 position.  
To record both the video and audio signals, connect the video equipment to the LINE IN VIDEO jack. Then audio signals from the audio system are recorded on PCM track and video signals via LINE IN VIDEO are recorded on the standard track.

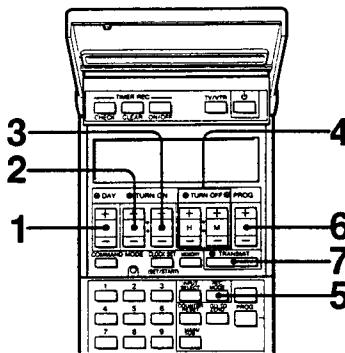
For details on connecting, see page 44.

- 1 Set the **AUDIO MONITOR** selector to **PCM**.
- 2 Press the **INPUT SELECT** button.  
The "L1" indication will appear in the display window.

#### Note

When a digital audio processor that does not conform to the 8mm format standard is used, select the SP mode and press the EDIT button so that the "EDIT" indication lights.

# Timer-Activated Recording



1 VTR REC MODE  
2 SP  
Th ON - : - - OFF - : - - PROG

2,3 VTR REC MODE  
2 SP  
Th 4 ON 10:00 OFF - : - - PROG

4 VTR REC MODE  
2 SP  
Th 4 ON 10:00 OFF 10:50 - -

5 VTR REC MODE  
2 LP  
Th 4 ON 10:00 OFF 10:50 PROG

6 VTR REC MODE  
2 LP  
Th 4 ON 10:00 OFF 10:50 TRANSMIT PROG

7 VTR REC MODE  
2 LP  
Th 4 ON 10:00 OFF 10:50 PROG

8 VTR  
Mo 2  
D 7:19

Set the program on the Commander, then transmit it to the unit.  
The timer can be set to record up to six timer setting programs on certain days or every day within one month. Presetting can be done even if power is turned off or the VTR is in recording pause mode.

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20				

Today

Possible days for recording

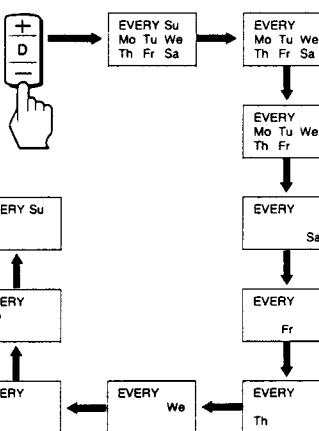
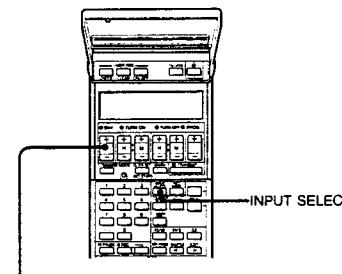
## Before timer setting

- Check that the clock on the unit is correct and that it corresponds to the clock on the Commander. For setting instructions, see page 7.
- Make sure the cassette is long enough to record all of the programs.
- Be sure the safety tab of the cassette has not been slid out.
- Press the INPUT SELECT button so that the TUNER indication appears.

## Setting the Timer

**Example:** To record a program broadcast from 10:00 to 10:50 on Thursday, July 4, 1991 on program position 8 in LP mode.

- Open the cover of the Commander and press **D** until 4 appears. The day of the week, Th (Thursday) is automatically set.
- Set the hour to start recording with **② TURN ON H**.
- Set the minute to start recording with **② TURN ON M**.
- Set the hour and minute to end recording with **③ TURN OFF H and M**.
- Set the recording mode, SP or LP, with the REC MODE button.
- Select the desired program position with PROG button.
- Point the Commander to the VTR and press TRANSMIT. Transmitting should be done within five minutes. The VTR produces beep sound and enters the recording standby mode.
- Close the cover of the Commander so that the present time appears on the LCD display. The VTR turns itself on and starts recording at the selected time, then turns off after the recording ends.



To set another program  
Repeat steps 1 to 7 before 8.

To record from the equipment connected to LINE IN VIDEO/AUDIO 1 or 2 jacks  
Press INPUT SELECT in step 6 on the previous page to change the indication from PROG to LINE, L1 or L2. Then select as connected.

## Making Daily/Weekly Recording

This VTR can be preset to record the same program each day of the week (daily recording) or the same program on a specific day of the week.

Instead of step 1 under "Setting the Timer", press D – on the Commander to change the LCD in the order shown in the illustration. When the desired recording mode is set and transmitted to the VTR, the corresponding indicator lights in the display window.

## Notes

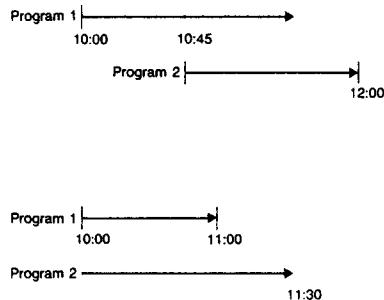
Active buttons during timer-activated recording  
• TIMER CHECK button  
• COUNTER RESET button

• TV/VTR button (Viewing another program during recording one program is possible.)  
After a preset recording is over, the numbers of presettings are moved up in turn.

## Indication in the Display Window on the Unit

A few seconds after the transmitting, press the TIMER CHECK button then indication will appear as shown in the illustration.

- A** Rec mode SP/LP (Tape speed)
- B** A day of the week
- C** Starting time
- D** Channel to be recorded
- E** Ending time
- F** TIMER REC indication  
(Turns on when timer setting program is set. Shown during the power turns off.)
- G** Program order number (6 timer settings available)



### **When the Timer Settings Overlap**

If the settings for two programs overlap

The recording of program 2 will begin before the program 1 is finished.

In the illust.: (The coloured portion will not be recorded.)

If the turn-on time of two programs are the same

The recording of the program having the lower program number (ex. program 1) will be made. The memory of the program having the higher number will be cleared.  
In the illust: (The coloured portion will not be recorded.)

**To record using the entire tape**  
Skip the turn-off time setting or set it to a time after the tape will reach the end.

#### Note

If the starting time of the former setting and the ending time of the latter setting are the same, about twenty seconds of the last portion of the former will be missing.

#### **Cautio-**

If a short beep occurs when TRANSMIT is pressed A short beep indicates that the transmission was not received by the VTR. Press TRANSMIT again before closing the cover, then check the

- An illogical setting has been made.
  - Timer setting can only be performed when the VTR is turned off, or in the stop, or timer recording mode.
  - Six timer settings have already been made.
  - The tape is at its end.
  - The clock on the unit does not correspond to the one on the Commander.

When the cassette is ejected by pressing the TRANSMIT button or the TIMER REC ON/OFF button

  - The opening on the cassette rear is red (closed). Slide the tab to open, or insert a new cassette.

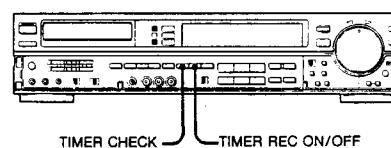
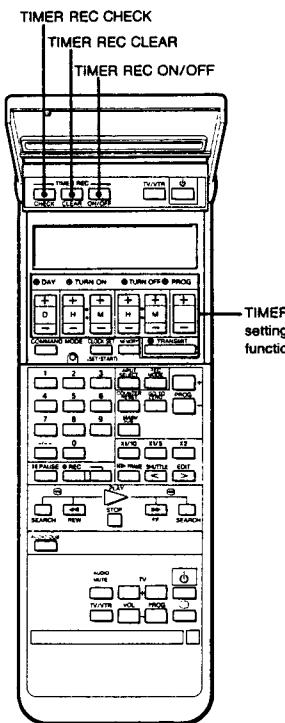
When the TIMER REC ON/OFF button is pressed "TIMER REC" does not appear the display window on the unit

  - The cassette for recording is not inserted.
  - The cassette is at its end.
  - The timer setting is not set on the unit.

If a power interruption occurs

If a power interruption occurs

If the power interruption lasted for about 1 hour or less and recording time remains, recording will resume after the power comes back on.



### **Checking the Timer Setting**

Press the TIMER REC CHECK button one time after another to display set programs in order.

## **Changing a Preset Timer Setting**

- 1** Press the TIMER REC ON/OFF button to clear the TIMER REC indication.
  - 2** Press the TIMER REC CHECK button to select the program number to be changed.
  - 3** Set another program with the Commander then press the TRANSMIT button.
  - 4** The new program has been set and "TIMER REC" indicator on the unit turn on.

#### **Clearing a Preset Timer Setting**

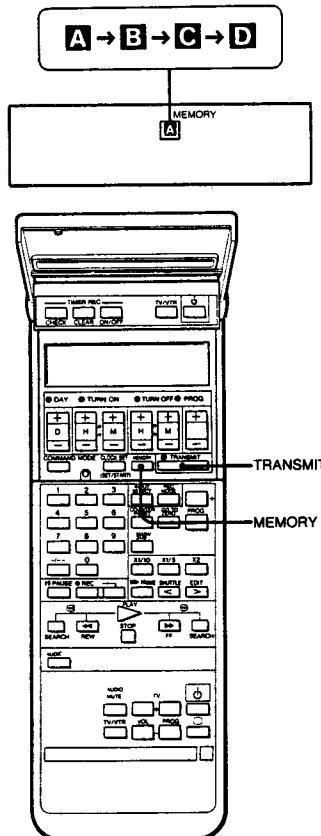
- 1 Press the TIMER REC ON/OFF button to clear the TIMER REC indicator.
  - 2 Press the TIMER REC CHECK button, then select the program number to be cleared.
  - 3 Press the TIMER REC CLEAR button.
  - 4 When other timer settings exist, press the TIMER REC ON/OFF button to turn the "TIMER REC" indicator on.

## **Stopping Timer-Activated Recording in Progress**

Press the TIMER REC ON/OFF button.  
Recording will stop.

#### **Using the Unit before Timer-Activated Recording Starts**

- To start using the VTR  
Press the TIMER REC ON/OFF button to turn off the "TIMER REC" indication in the display window on the unit.
  - To quit using the VTR  
Press the TIMER REC ON/OFF button to turn on the "TIMER REC" indication in the display window on the unit.



#### To Store the Frequently Used Items in the Commander

The items selected for one timer recording program will be erased from the LCD when the Commander cover is closed. However, the turn-on/turn-off time and the program position of up to four programs can be stored in the Commander to be recalled later. This enables you to quickly access the most frequently used items, especially your favorite weekly programs. The recording date will automatically be shifted to the next week after the recording is over. It will be cleared from the program list when recording is over.

#### Operation

**Example:** To store a timer recording data in MEMORY A.

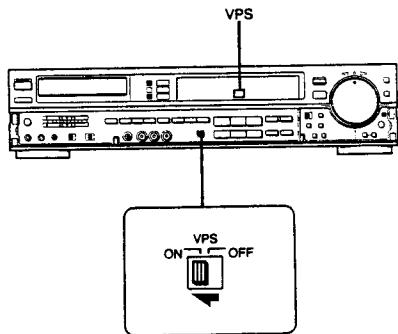
- 1 Press MEMORY to indicate MEMORY A.
- 2 Set all of the items for timer recording referring to "Timer-Activated Recording-Setting the timer."
- 3 Press MEMORY to change the indication to B, C, or D, and repeat step 2 for other programs. The items set will be kept in the memory even when the Commander cover is closed.

#### Recalling and Changing the Items

- 1 Press MEMORY to call up the desired memory indication (A, B, C, or D).
- 2 Make whatever changes necessary.
- 3 Press TRANSMIT. The VTR enters the timer recording standby mode.

#### How to clear a memory

A timer setting memory can not be cleared. But it will be replaced with new one(s) by pressing MEMORY to call one(s) of A to D.



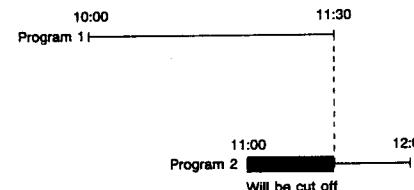
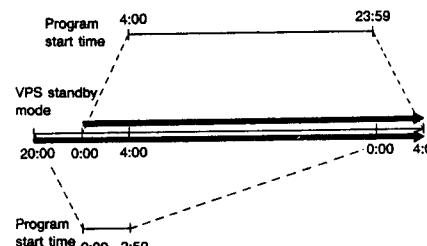
#### About the VPS Switch

To avoid missing a timer-activated recording because of a delay in the transmission sequence or a change in the program schedule, the West German broadcasting stations have agreed to transmit a special code, called the VPS (Video Program System) code, together with the TV program. The VTR is equipped with a VPS switch which allows you to preset recording times and insures that your programs will be recorded regardless of delays.

- 1 Set the VPS switch to ON. The VPS indication appears in the display window.
- 2 Set the timer to the time listed in the VPS program guide which corresponds to the program you want to record.

#### Notes

- The VPS function can be turned on only when the TIMER REC indicator is turned off.
- If the VPS signal was not received on the VTR because it was too weak or because the station failed to transmit, timer recording will be performed without the VPS function regardless of the VPS indication.
- The recording will stop when the VTR receives a VPS program interruption code during recording, for example, when an urgent news bulletin was inserted. As soon as the interrupted program resumes, recording will continue.



#### VPS Standby Mode

The VTR will be turned on to standby for VPS recording before the turn-on time and remains turned on past the preset turn-on time until the VPS signal is received to prepare for any change in the actual broadcast time.

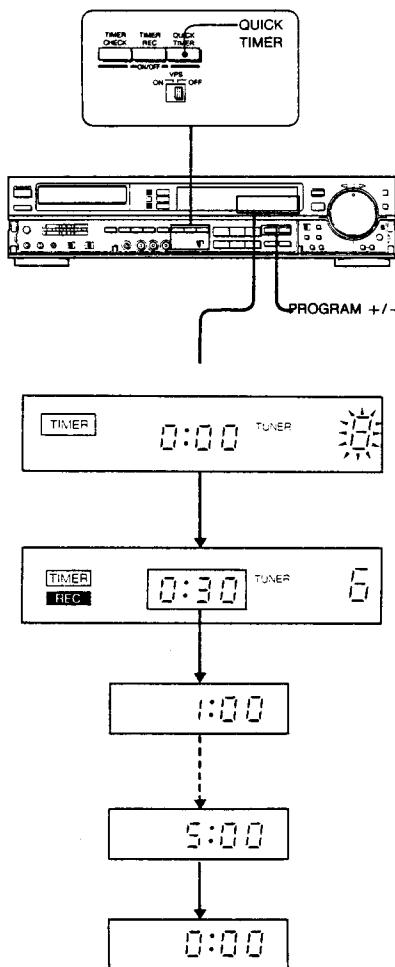
**When the VPS timer recording is set for a program which is expected to start between 4:00 and 23:59?**  
The VTR will be turned on at 0:00 that day and will keep on waiting for the VPS signal until 4:00 of the next day.

**When the VPS timer recording is set for a program which is expected to start between 0:00 and 3:59?**  
The VTR will be turned on at 20:00 the day before the recording day and will keep on waiting for the VPS signal until 4:00 on the next day.

#### If the actual recording time overlaps with the next timer recording program

There may be cases when the actual broadcast time of two timer recording programs overlap owing to the shift made by the VPS signal. In this case, the program that was broadcast first always has priority. The recording of the second program will begin only after the first program is over.

# Quick Timer Recording



## What Is Quick Timer Recording?

With the quick timer recording function, simple and rough timer recordings can be made. The timer can be set to operate within 5 hours in units of 30 minutes.

## Operation

- 1 Check the following items.**
- INPUT SELECT** : Displays "TUNER" in the window
- REC MODE SP/LP** : SP or LP
- REC LEVEL** : Approximate standard on 5 position
- 2 If the cassette is not inserted, insert it.**
- 3 Press the QUICK TIMER button**  
The channel can be changed while the channel indicator is blinking (for about 25 seconds).
- 4 Press the QUICK TIMER button repeatedly to select recording time.**  
Each press of the button increases the preset recording time up to 5 hours in units of 30 minutes.
- 5 When the TIMER COUNTER counts down to "0:00", the VTR is stopped and the power is turned off.**

During quick timer recording, the recording time can be changed by pressing the QUICK TIMER button. During recording, the time displayed will count down in units of one minute.

## Function available during Quick Timer Recording

**Stopping recordings in progress**  
Press the TIMER REC ON/OFF button.  
(The ■ STOP button does not work.)

**Changing recording time**  
Press the QUICK TIMER button

**Checking the timer**  
Press the TIMER CHECK button. (Preset programs will be displayed in the window on the unit.)

**Resuming "0H00M00S"** on the counter preset program  
Press the COUNTER RESET button.

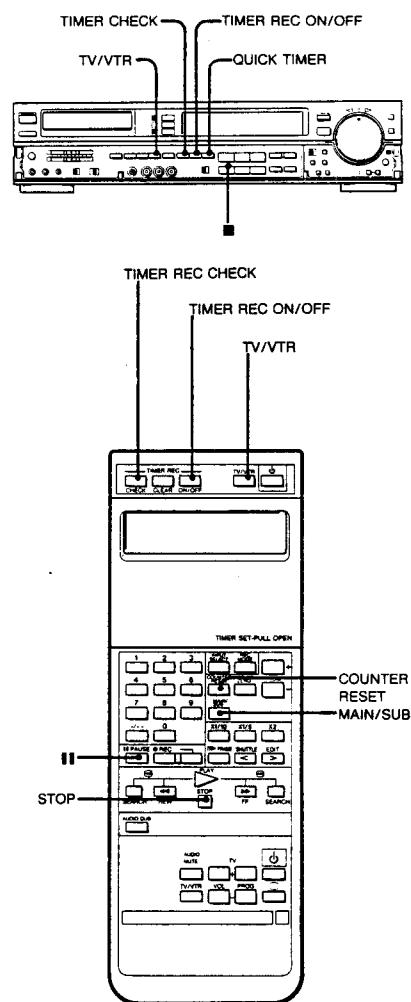
**Monitoring another channel**  
Press the TV/VTR button.

**Monitoring bilingual sound**  
Press the MAIN/SUB button.

**Caution**

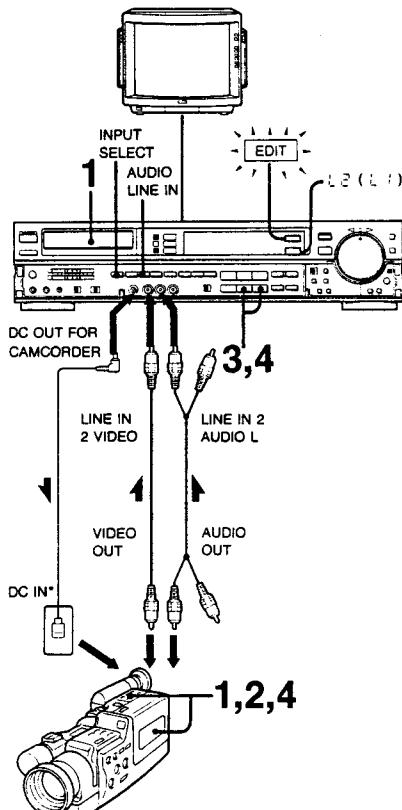
- The QUICK TIMER button does not work during the timer setting standby mode. Press the TIMER REC ON/OFF button to clear the "TIMER REC", then press the QUICK TIMER button again.
- When the opening on the cassette rear is red (closed), the tape cannot be recorded.  
Then, if the QUICK TIMER button is pressed, the cassette will be ejected. Insert a cassette with its opening not closed (not red) and press the QUICK TIMER button again.

**If a power interruption occurs**  
Recording will stop and power will turn off.  
If the power interruption lasted for about 1 hour or less and recording time remains, recording will resume after the power comes back on.



# Editing Tapes

- 25 -



▲ shows the direction of the signal flow.

## To Edit the Entire Tape to Another Tapes

When a video camera recorder or another VTR is connected to this VTR via the CONTROL L (LANC) jack, the synchronized editing function can be used (see page 38).

### (1) Editing a tape on this VTR from a video camera recorder or another VTR

**Example:** Using a video camera recorder as the player via the LINE IN 2 AUDIO/VIDEO jack on this VTR.

#### Preparation

- Connect the equipment involved. If the video camera recorder is a monaural type, connect the white plug (AUDIO L) of the supplied connecting cable to the audio jack. (When stereo, connect to L and R.)
- Select the REC MODE (tape speed) on this VTR, SP or LP, using the REC MODE SP/LP button.
- Press the INPUT SELECT button to select LINE IN 2. Then "L2" will appear in the display window on this VTR. (When connected to LINE IN 1, press the button to select LINE IN 1 and to display "L1" in the display window.)
- Press the EDIT button so that "EDIT" appears in the display window.
- Adjust the REC LEVEL control to around 5.

#### Operation

- 1 Turn on the power of the equipment to be used. Insert the original cassette into the player and a new cassette into this unit.
- 2 Set the player to the playback pause mode and set the EDIT button to ON.
- 3 Set this unit to the recording pause mode.
- 4 Release the pause modes simultaneously.

#### Notes

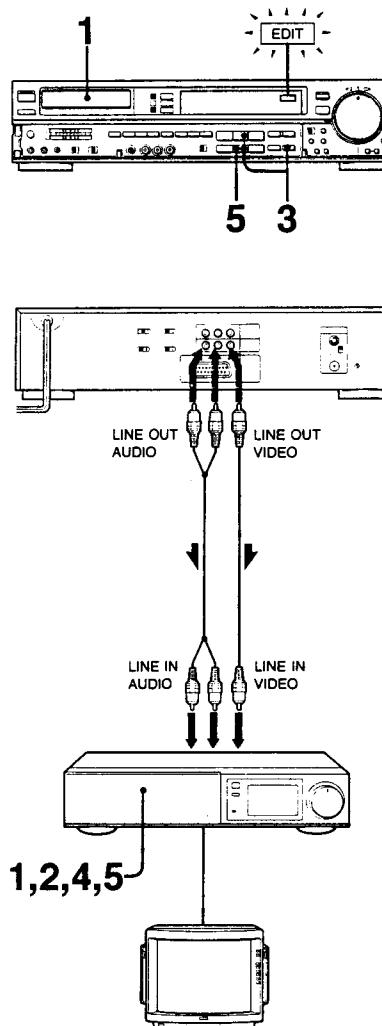
- When the player is a stereo type, connect the audio plugs to the left and right jacks.
- LINE IN 1 VIDEO/AUDIO can be also connected to use.

#### Editing from a tape on which the bilingual broadcast is recorded

When editing on this VTR via VIDEO/AUDIO LINE IN jack from another VTR, press the AUDIO LINE IN button to display "MAIN" in the display window. Then the MAIN/SUB sound is recorded on both standard and PCM tracks.

- After editing, press the button again to display "STEREO".
- Playback the tape on the other VTR with displaying MAIN/SUB.
  - Refer to the instruction manual of the other VTR.

\* DC in cord (supplied) supplies DC power for the Sony 8mm video camera recorder directly.



▲ shows the direction of the signal flow.

(2) Editing a tape on another VTR from this unit  
When this unit is the player and another VTR is the recorder:

#### Operation

- 1 Turn on the power of the equipment to be used. Insert the original cassette to this unit and a new cassette to another VTR.
- 2 Set the input select switch of another VTR to LINE.
- 3 Set this unit to the playback pause mode and press the EDIT button. The "EDIT" indication will light in the display window.
- 4 Set another VTR to the recording pause mode.
- 5 Release the pause modes simultaneously.

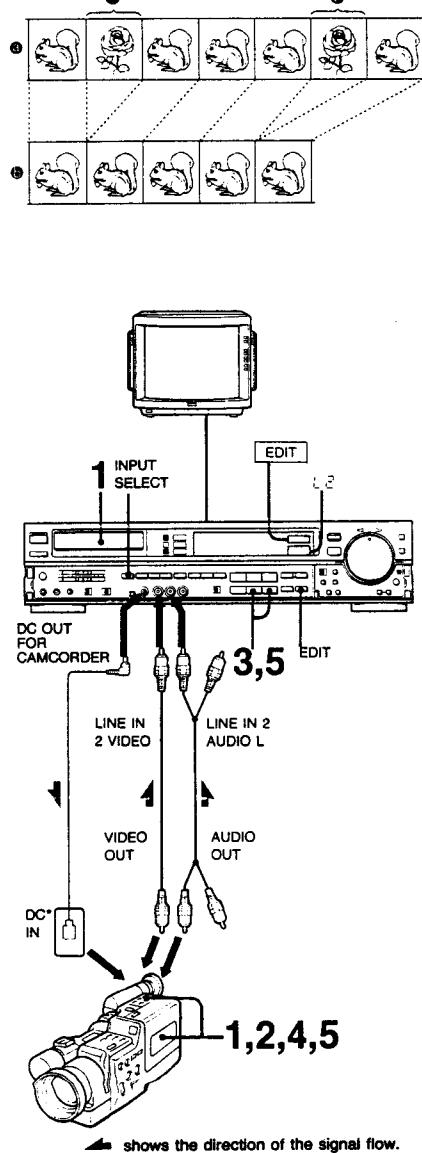
#### The EDIT button

When editing a tape, press this button so that the "EDIT" indication lights in the display window. Deterioration of picture quality will be avoided. Press again after editing.

The SHARPNESS control will not function when the EDIT button is pressed.

#### Notes

- Avoid repetition of editing tapes, as the picture and tone quality will be impaired noticeably for newly edited tapes.
- When you make the recording and playback connections simultaneously to the same VTR, noise may come out.
- When another VTR is a monaural type, use the optional RK-C72 connecting cable.



### Editing only Desired Scenes

Cutting out unnecessary scenes  
If another VTR has the CONTROL L  (LANC) jack, the synchronized edit function can be used (see page 38).

- ① original tape
- ② edited tape
- ③ cut out
- ④ cut out

**Example:** Using a video camera recorder as the player via the LINE IN 2 AUDIO/VIDEO jack on this VTR.

#### Preparation

- Select the tape speed, SP or LP, on this VTR using the REC MODE selector.
- Press the INPUT SELECT button to select LINE IN 2, then "L2" will appear in the display window on this VTR. (When connected to LINE IN 1, press to select LINE IN 1, then "L1" will appear in the display window.)
- Set the EDIT button to ON then "EDIT" will appear in the display window.
- Adjust the REC LEVEL control to around 5.

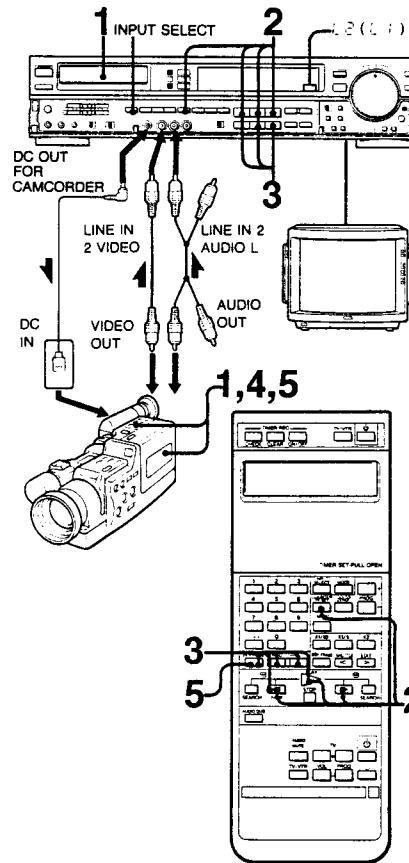
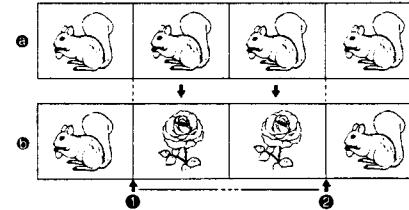
#### Operation

- 1 Turn on the power of the equipment to be used. Insert the original cassette to the player and a new cassette into this unit.
  - 2 Set the EDIT switch to ON.
  - 3 Edit the tape while viewing the playback picture, and set this unit to the recording pause mode at the point where no picture is recorded.
  - 4 Set the player to the playback pause mode at the point where the desired picture is recorded.
  - 5 Release the pause modes simultaneously.
- Repeat steps 4 to 5 for recording other desired scenes.
- \* DC in cord (supplied) supplies DC power for the Sony 8mm video camera recorder directly.

### Insert Editing

Inserting another scene into a recorded tape (original tape) is called "Insert Editing". This technique is used to replace an unnecessary scene with another one.  
If the other VTR has a CONTROL L  (LANC) jack, the synchronized edit function can be used.

- ① original tape
- ② edited tape
- ③ starting point
- ④ ending point

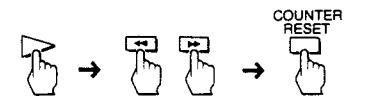


#### Preparation

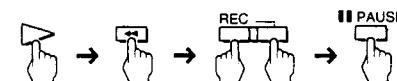
- Set the REC MODE SP/LP to the same mode of the recorded tape (original tape).
- Press the EDIT button so that appears in the display window.
- Adjust the REC LEVEL control to around 5 position.

#### Operation

- 1 Turn on the power of the equipment to be used. Insert the cassette with the scenes into the player. Insert the original cassette into this VTR.
- 2 Locate the ending point on the original tape by pressing  REW or  FF button during playback. Then press the COUNTER RESET button (0H00M00S).



- 3 Locate the starting point on the original tape by pressing  REW button during playback. Set this VTR to the recording pause mode.



- 4 Locate the starting point of the scene to be inserted on the player and set it to the playback pause mode.
- 5 Release the pause modes simultaneously. The recording stops automatically at the ending point (0H00M00S).

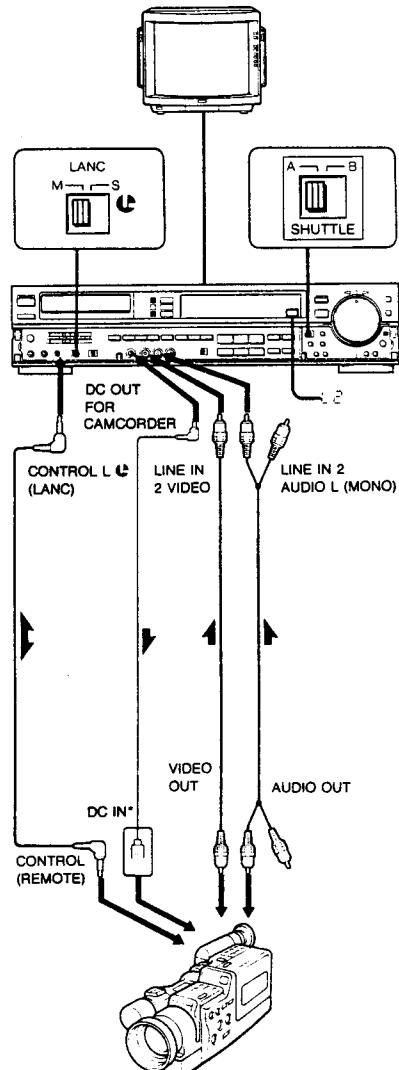
#### For better editing

Release the playback pause mode a little earlier than the recording pause mode.

#### Notes

When the edited tape is played back, the picture may be disturbed momentarily at the ending point.

# Synchronized Editing



## Overview

When a Sony VTR with the CONTROL L (LANC) jack or a video camera recorder is connected, the synchronized editing function can be used. This function allows one VTR to control another VTR while editing. (Connect to the LINE IN 2 AUDIO/VIDEO on this VTR.)

## LANC switch

This switch is used to select control of the other VTR with this VTR, or control of this VTR with the other VTR.

**M:** Controls the other VTR with this VTR.

**S:** Control this VTR with the other VTR or editor.

When both VTRs have a LANC switch, decide which is to be M and which is S. Then select the LANC switch on both VTRs accordingly.

## Selecting SHUTTLE A-B switch

Select the SHUTTLE A-B switch according to the type of VTR connected to this VTR.

**A:** The player VTR or camcorder without the JOG/SHUTTLE controls the other VTR (recorder) and any option is not applicable.

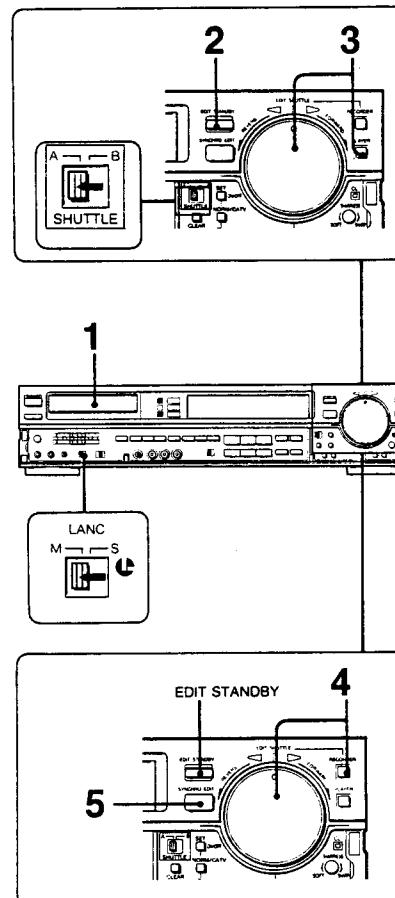
**B:** The player VTR with the JOG/SHUTTLE controls the other VTR or an option is applicable.

## Connection

**Example:** When a video camera recorder is used as the player

### Notes

- When the video camera recorder is a monaural type, connect the white plug of the supplied connecting cable to the AUDIO L jack. (When stereo, connect to L and R.)
- The power for the Video Camera Recorder (DC 7.5 V 1.6 A) is supplied from the DC OUT FOR CAMCORDER jack on the unit.
- DC in cord (supplied) supplies DC power for the Sony 8mm video camera recorder directly.



## Preparation

- Select the tape speed, SP or LP, on REC MODE SP/LP button on this VTR.
- Select A on the SHUTTLE A-B switch.
- Select M on the CONTROL L switch.
- Connect the Video Camera Recorder to the LINE 2 jack.
- Adjust the REC LEVEL control to around 5 position.

## Operation

### 1 Turn on the power of the equipment to be used.

Insert the cassette.  
Insert a cassette for recording into this VTR and a recorded cassette into the other VTR.

### 2 Press the EDIT STANDBY button.

The EDIT STANDBY indicator and the player indicator will light. The LINE IN switch is set automatically to LINE IN 2 (L2).  
The Video Camera Recorder (player side) enters the playback pause mode and this VTR enters the recording pause mode.  
The picture from the player will be displayed on the screen.

### 3 Search for the starting point to be recorded on the player.

If the PLAYER button indicator does not light on, press the PLAYER button to turn the indicator on. Then search for the starting point of the scene to be recorded on the player tape using the EDIT SHUTTLE control.  
Release your finger from the EDIT SHUTTLE at the starting point to resume the playback pause mode.

### 4 Press the RECORDER button on the recorder to light the indicator on. Search for the starting point to be recorded over using the EDIT SHUTTLE control.

To search for the point to be recorded over on the recording tape, turn the EDIT SHUTTLE to change to the picture on the recorder.  
Release your finger from the EDIT SHUTTLE at the starting point to resume the recording pause mode.  
The screen will display the picture on the player.

### 5 Press the SYNCHRO EDIT button.

Both the player and the recorder are released from the pause mode. Then playing and recording will start.

#### Note

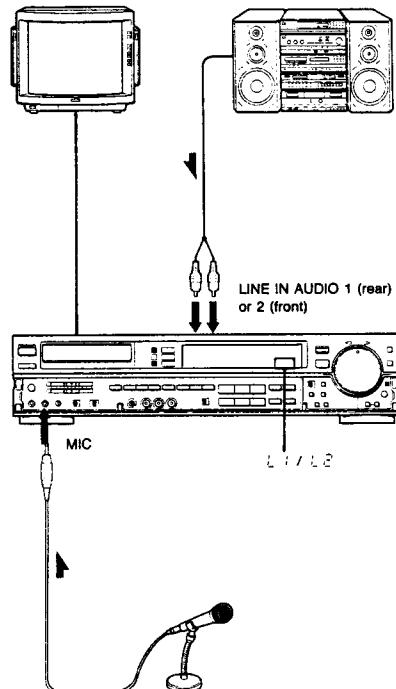
Operate as described in steps 3 and 4 above to select the starting point for recording/playback. Press the SYNCHRO EDIT button again to start editing.  
Repeat the steps 3 to 5 to edit.

#### To stop the synchronized editing

Press the EDIT STANDBY button. The lamp lights off and both the player and the recorder enter the stop mode.  
The INPUT SELECT will change to TV and the received TV program will appear on the screen.

# Dubbing the Audio Signals

You can additionally record music or narration on the PCM track of your tape, while the picture and sound pre-recorded on the standard track are unchanged.



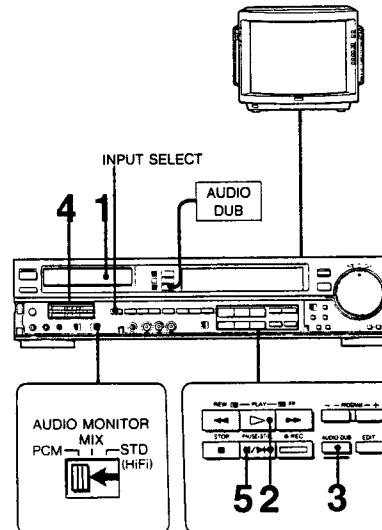
## Connection on the Audio Source

### Notes

- Sound from the microphone is recorded in monaural.
- When the microphone is not in use, do not connect the microphone to the MIC jack or the sound will be mixed with the sound from the LINE IN AUDIO 1 or 2.
- Refer to each instruction manuals.

### Tips for dubbing

- For fade-in operation, adjust the REC LEVEL control from the zero point to the normal position. For fade-out operation, turn it from the normal position to the zero point (LINE IN AUDIO only).
- The sound from the LINE IN AUDIO 1 jack on the rear panel or LINE IN AUDIO 2 jack on the front panel and the MIC jack can be mixed.
- Adjust the balance of the sound on the standard track and the sound dubbed on the PCM track with the REC LEVEL control.



▲ shows the direction of the signal flow.

## Operation

### Preparation

- Turn on the TV and select the channel for the VTR or select the input for the VTR.
- Set the AUDIO MONITOR selector to PCM.
- Press the INPUT SELECT button so that the L1 or L2 indication lights.
- Adjust the REC LEVEL control to an appropriate level watching the level meter.

### Operation

- 1 Insert the cassette.
- 2 While viewing the picture, decide the point to start audio dubbing and press the ▶/◀ PAUSE/STILL button.
- 3 Press the AUDIO DUB button.
- 4 Playback the audio sources and adjust the REC LEVEL.
- 5 Press the ▶/◀ PAUSE/STILL button to release the pause mode, and at the same time start the audio source.

To stop audio dubbing momentarily  
Press ▶/◀ PAUSE/STILL or ▶ PAUSE on the Commander.

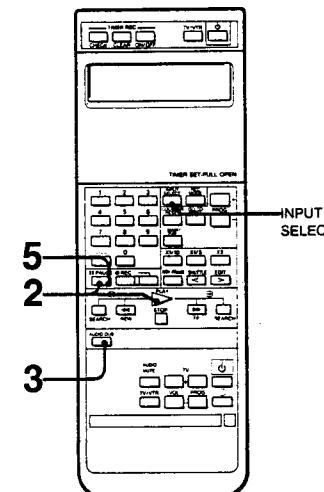
To stop audio dubbing  
Press ■ STOP.

To dub sounds from the TV  
Press the INPUT SELECT button to select the "TUNER". Other operations are the same as the above steps.

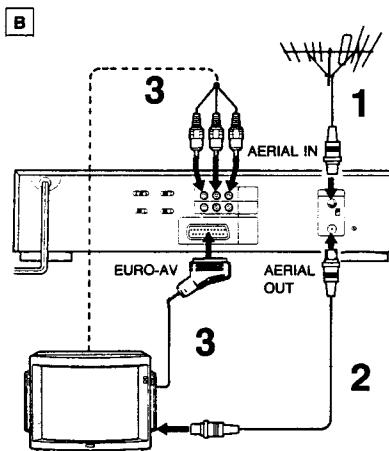
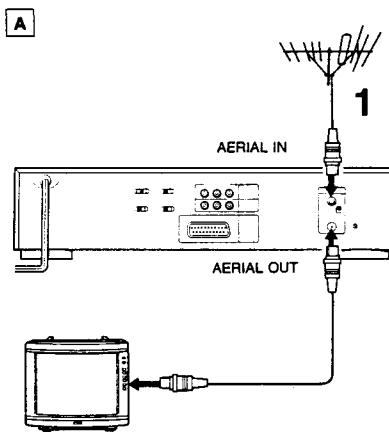
### Notes

- The dubbed sound cannot be played back by a VTR without PCM recording or playback functions.
- The pre-recorded sound on the PCM track will be erased by dubbing.

During dubbing, black bars will appear in the center and lower positions of the screen. But it has no effect on the recorded images.  
Picture may shake or colours may fade with certain TVs.

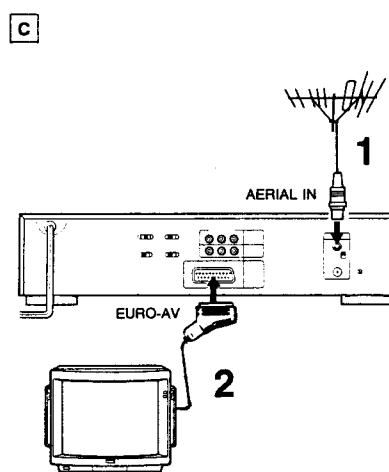


# Connections



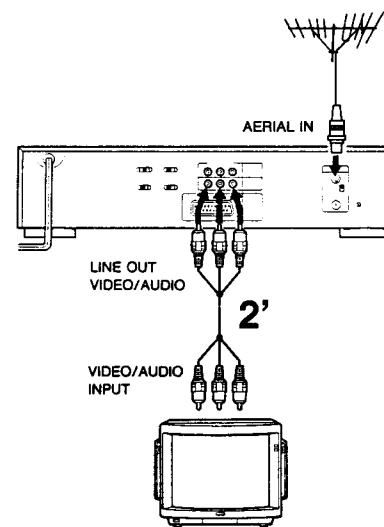
**Notes**

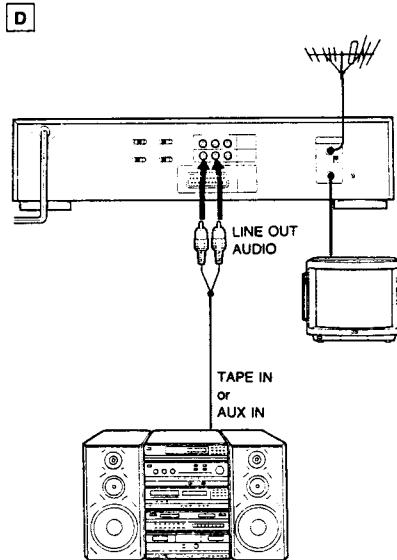
- Unplug each unit from the mains outlet before making the following connections.
- Make sure the connections are secure. A loose connection may cause a noisy picture.



**Note**  
To use the Sony KX-series colour monitor, connect the recorder to the BNC-type VIDEO IN and phono-type AUDIO IN connectors on the monitor.

**Notice on connection with a colour monitor**  
Connection between AERIAL OUT of the recorder and the colour monitor is not possible since the monitor is not equipped with a tuner. For this reason, you cannot watch a TV program while recording another program on the recorder.





**D Connecting an Audio System**

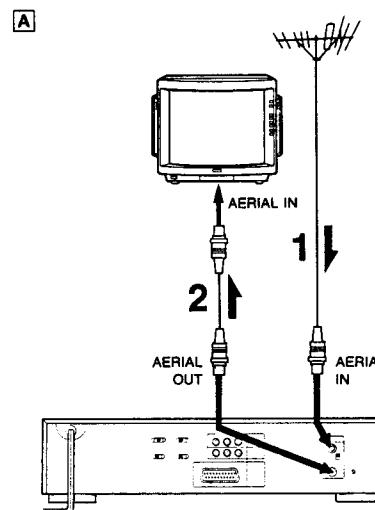
You can listen the sound of a cassette by connecting your stereo system.

Connect LINE OUT AUDIO of the VTR to the TAPE IN (or AUX IN) jack of a stereo amplifier.

**Notes**

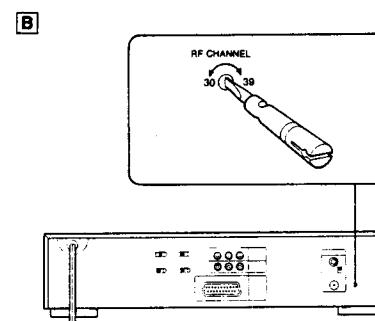
- If the VTR is installed near a tuner or a radio, noise may occur in the AM reception. In this case do one of these: keep the VTR away from the tuner or the radio, adjust the AM bar antenna for minimum noise, or connect an external AM antenna to the tuner.
- Note that PCM recorded cassette reproduce sounds over a wide dynamic range. Adjust the volume carefully to protect your speaker from damage.
- Before connecting or disconnecting the power cord of the VTR, be sure to turn the amplifier off.

## Adjusting the TV (To connect this VTR to a TV without video/audio inputs)



**A Making connections**

- 1 Unplug the aerial's lead from the TV and plug it into AERIAL IN on the VTR.
- 2 Plug the supplied coaxial cable into the TV and the AERIAL OUT on the VTR.



**B Adjusting the RF channel**

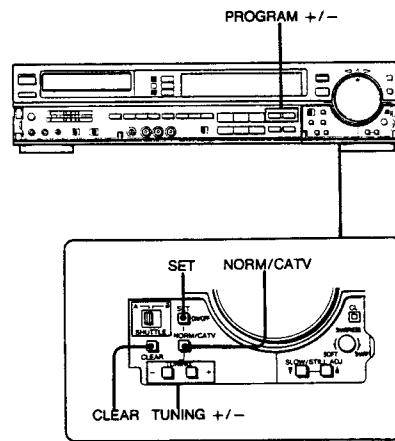
- 1 Turn the TV on and select an empty program.
- 2 Turn the VTR on and playback a prerecorded tape. (See page 14)
- 3 Adjust the TV so the tape that is played back appears clearly on the screen.
- 4 If the playback picture is not free of disturbance, use the supplied screwdriver to adjust the RF CHANNEL to a channel which is not active in your area.

**Note**

Now your TV is tuned to receive the VTR's playback picture. Whenever you playback a tape, select the program you chose in step 1. If you are not sure how to tune your TV, refer to the TV's instruction manual or consult your dealer.

# Presetting TV Channels

## Selecting TV Channels



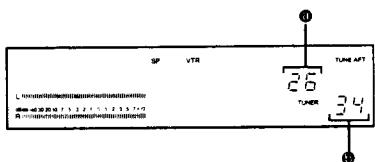
This VTR is capable of receiving the following channels:  
VHF channels E2 – E4, E5 – E12  
UHF channels E21 – E69  
Cable TV channels S01 – S03, S1 – S20 and S21 – S41

- The receivable channels are governed by the TV broadcasting system in your area.
  - Up to 60 channels can be allocated to any desired program position.
- 1** Press SET button.
  - 2** Select the desired program position by pressing PROGRAM +/–.
  - 3** Select the normal programs or CATV programs with the NORMAL/CATV button.  
CATV will be displayed when CATV is received into the TV set.
  - 4** Press TUNING +/– button and select the channel number
  - 5** To allocate a channel to the next program position, repeat steps 2 to 4.
  - 6** Press SET button again.

**To Allocate the Channels Directly**  
In step 4, enter the desired program numbers using the program position number and –/– buttons on the Commander.  
To enter one's digits, press 0 and then the desired number. To enter two digit numbers, press –/–, the ten's digit number, and lastly the one's digit number.

- Channel scanning on your VTR**
- When TUNING + is pressed in steps 4 channels are scanned in the following order. When TUNING – is pressed the scanning order is reversed.  
VHF (E2-E12) → UHF (E21-E69) → CATV (S1-S20)  
→ HYPER BAND (S21-S41) → CATV (S01-S05).
  - In Italy, channels 13 to 20 correspond to channels A to H.

① Program position  
② Channel number

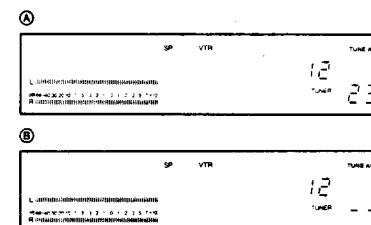
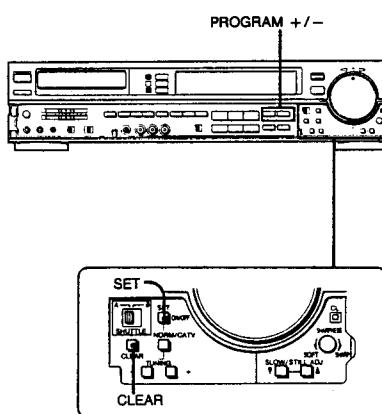


## Erasing Unwanted Program Positions

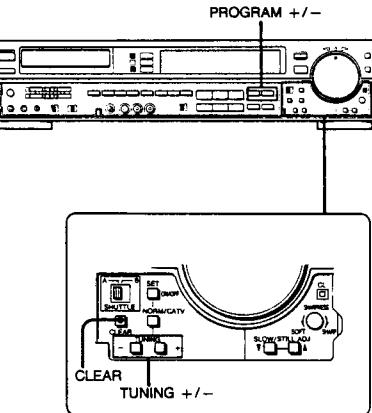
The VTR can be preset so that only the desired program positions will appear when you press PROGRAM +/–.

- 1** Press SET button.
- 2** Press PROGRAM +/– for displaying the unused program position.
- 3** Press CLEAR.
- 4** Repeat steps 2 and 3 to erase other program positions.
- 5** Press SET.

**To enter the erased program positions again**  
Follow the procedure in "Selecting TV Channels."



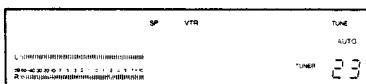
- Ⓐ When SET button is pressed  
Ⓑ When CLEAR button is pressed



#### Manually Fine-tuning a Weak station

Normally set to AFT ON, the VTR automatically tunes the received channels. However, when the program received on the VTR is distorted due to signal interference, manual fine tuning may solve the problem.

- 1 Select the distorted program position by pressing PROGRAM +/-.**
- 2 Press the TUNING +/− buttons simultaneously.** The AFT indicator disappears. To resume the AFT ON mode, press the CLEAR button.
- 3 Press the TUNING buttons + or − for searching the clear displaying point.**
- 4 Press the TUNING +/− buttons simultaneously for setting.**



## Precautions

#### On safety

- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

#### On installation

- Allow adequate air circulation to prevent internal heat build-up. Do not cover the holes on the top panel.
- Do not place the unit on surfaces (rugs, blankets,etc.) or near materials (curtains, draperies) that may block the ventilation slots.
- Do not install the unit near heat sources such as radiators or air ducts or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- The unit is designed for operation in a horizontal position. Do not install it in an inclined position.
- Keep the unit and cassette tapes away from equipment with strong magnets, as for example a microwave oven or a large loudspeaker and so on.
- Do not place any heavy object on the unit. Never place any object on the tuning compartment nor on the top of the front panel.

#### On operation

- When the unit is not in use, turn the power off to conserve energy and to extend its useful life.
- Remove and store a video cassette after recording or playback.

#### On cleaning

Clean the cabinet, panel and controls with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine which might damage the finish.

#### On repacking

Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it as shown the illustration on the carton.

#### On cassette care

Store cassettes in their cases and keep them in an upright position to prevent intrusion of dust and uneven winding.

#### On moisture condensation

##### Main Unit

Do not operate the unit right after having transported it from a cold location to a warm location or in a room where the temperature rises suddenly, because moisture may condense in the operating section of the unit. Wait for about an hour before turning the power on in the new location or keep the rise in room temperature gradual. If the unit is operated with moisture condensation, the unit and the tape may be damaged. Therefore remove the tape immediately when there is a possibility of moisture condensation and no picture is obtained. To evaporate the moisture rapidly, leave the player turned on without a tape loaded.

##### Cassette

When a cassette tape is carried from a cold place to a warm place, the cassette tape may become wet with dew created by moisture condensation. When there is any possibility of moisture condensation, eject the cassette tape and leave it outside of the compartment for about one hour.

If you have any questions about this unit, contact your Sony dealer.

## Notes on Video Heads

### Video heads cleaning

VTRs used for a long time may play back the rough picture or do not display the picture. The possible cause may be the contamination of the video heads. In such a case, clean the video heads at first. Use the video head cleaning tape V8-25CLH (not supplied) or ask the Sony service personnel to clean the video heads.

If the picture is not clear in using a cassette tape of another type, sometimes it is effective to use the video head cleaning tape. Use it after reading the instruction manual carefully.

### Video heads wear by long time using

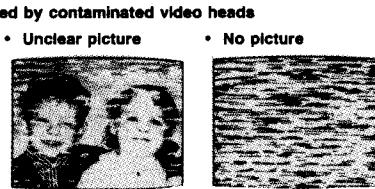
If the VTR displays unclear picture after cleaning of the video heads, the replacement of the video heads is necessary. Consult the dealer or the Sony representative.

### Check the video heads after 1,000 hours use.

VTR is a high precision machine. It must record on or play back from magnetic tapes on which the image signals from the colour TV or the video camera recorder are recorded.

The video heads or mechanical parts to transport the tape are contaminated or weared in a long time use. It is recommended to have the VTR checked (cleaning, oiling and replacing weared parts) about 1,000 hours interval.

Use the video cleaning tape if you find the symptom as follows:



Initial → terminal

Above symptom may occur in playback.

Most possible cause of this may be the contamination of video heads.

Purchase the video cleaning tape V8-25CLH at your dealer or a Sony shop.

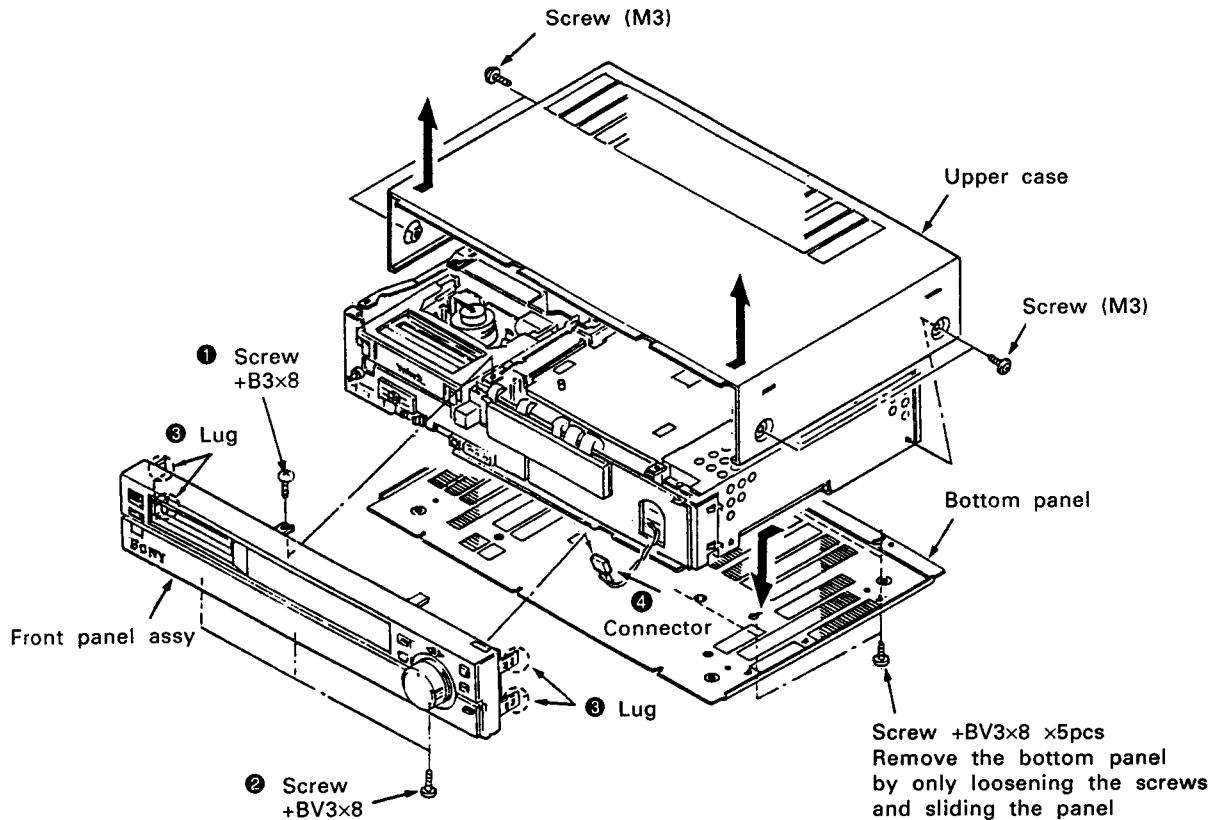
## Troubleshooting

The following checks will assist you in correcting most problems which you may encounter with your VTR. Should any problem persist after you have made these checks, consult your nearest Sony service facility. Before going through the check list below, first refer back to the connection and operation procedures.

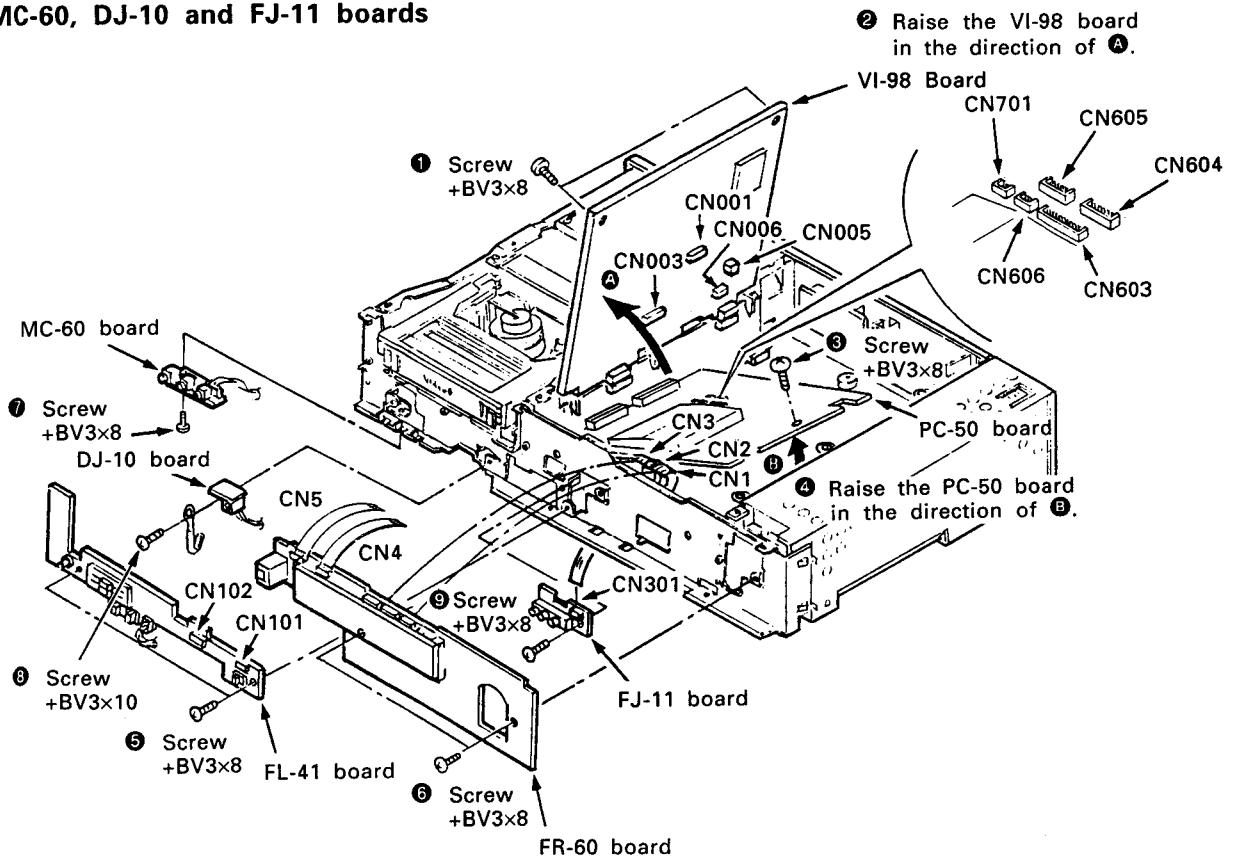
Symptom	Possible causes and corrections
The ON/STANDBY switch does not function.	<ul style="list-style-type: none"> <li>The power cord is disconnected.</li> <li>The recorder is in the timer standby mode. (Press TIMER REC so that the TIMER REC indication goes off.)</li> </ul>
The clock blinks showing "Su 0:00".	There has been a power interruption. Reset the clock time and timer settings. ⑦
Picture being recorded cannot be monitored on the TV screen.	<ul style="list-style-type: none"> <li>Press TV/VTR so that the VTR indication is displayed in the display window.</li> <li>The channel for the VTR is not correctly tuned on the TV.</li> </ul>
TV program is not clearly displayed on the TV screen or no picture is displayed on the screen.	<ul style="list-style-type: none"> <li>The VTR indication is not displayed. Press the TV/VTR button. ⑪</li> <li>The channel for the VTR is not correctly tuned or the video input is not selected on the TV.</li> <li>The CLOUR SYS selector is not set correctly.</li> </ul>
When the ●REC buttons are pressed, the cassette is ejected.	The tab on the cassette is slid out (red). ⑤
Recording cannot be done correctly.	<ul style="list-style-type: none"> <li>The input is not selected correctly. ⑩</li> <li>The cassette is not inserted.</li> <li>The connecting cord is not connected to the LINE IN VIDEO/AUDIO jacks. ⑩</li> </ul>
Playback picture is not clearly displayed on the TV screen.	<ul style="list-style-type: none"> <li>The channel for the VTR is not correctly tuned or the video input is not selected on the TV.</li> <li>The video heads may be contaminated. ⑮ Clean the heads using the Sony video head cleaning cassette. For details on cleaning, refer to the instructions furnished with the cleaning cassette.</li> <li>Adjust the SHARPNESS control.</li> <li>H8 recorded tape is played back.</li> </ul>
Stereo programs are heard in monaural	<ul style="list-style-type: none"> <li>Set the AUTO STEREO switch ON. ⑪</li> <li>Set the AUDIO MONITOR selector to PCM. ⑯</li> <li>No sound is recorded on the PCM track.</li> <li>The tape is audio dubbed.</li> </ul>
The picture shakes in the picture search mode.	Adjust the vertical hold control on the TV.
Timer setting cannot be made.	The clock is not set. ⑦
The cassette is ejected when the TIMER REC button is pressed.	The tab on the cassette is slid out.
A timer recording cannot be made.	<ul style="list-style-type: none"> <li>There has been a power interruption. ⑦</li> <li>The TIMER REC button has not been pressed. ⑯</li> <li>The cassette is not long enough to record.</li> <li>The clock is not set correctly. ⑦</li> </ul>
The Remote Commander cannot be operated.	<ul style="list-style-type: none"> <li>The batteries are exhausted. ⑥</li> <li>Set the COMMAND MODE, VTR1, VTR2 or VTR3, identically on both the unit and the Remote Commander. ⑥</li> </ul>
Sounds from the LINE IN AUDIO jacks cannot be heard.	The REC LEVEL control is at lower level position. ⑫
The VTR does not operate to any button.	<ul style="list-style-type: none"> <li>The built-in microprocessor seems to work wrong. ⑯ Pressing the CL (reset) button with a pointed object, such as a ball point pen, may cause to resume. (All of the information such as the clock or the preset programs stored will be cleared.)</li> </ul>

### SECTION 3 DISASSEMBLY

#### 3-1. UPPER CASE, BOTTOM and FRONT PANELS



#### 3-2-1. Removal of VI-98, PC-50, FL-41, FR-60, MC-60, DJ-10 and FJ-11 boards

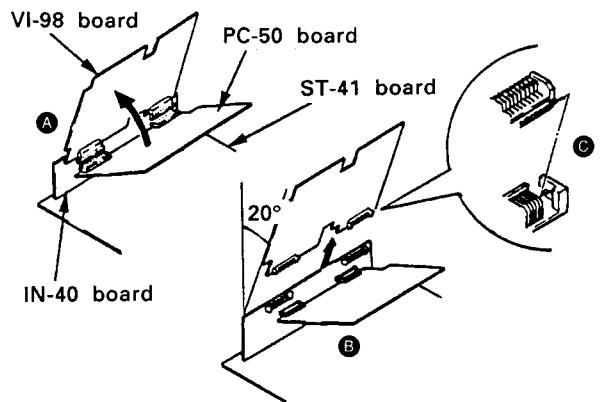


### 3-2-2. Removal of board connected with BOARD TO BOARD connector

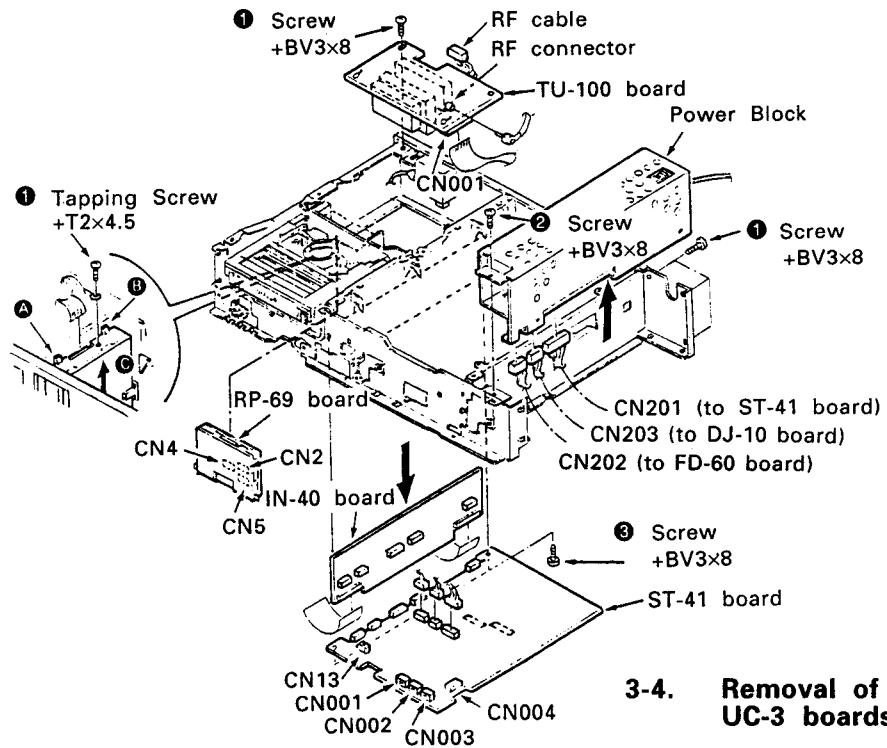
Example: VI-98 board is removed from IN-40 board.

- 1) Raise the VI-98 board as shown in **A**.
- 2) Draw the VI-98 board in the direction of 20° from the IN-40 board as shown in **B**.
- 3) Remove another PC-50 board in the same way.
- 4) To mount a board, engage the connector into the socket as shown in **C** and insert.

**Note:** If forcefully pulled, the connector or pattern may be damaged, so be careful.

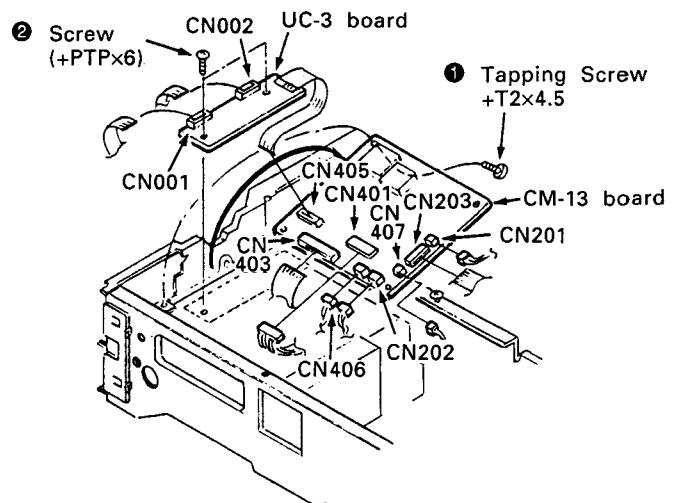
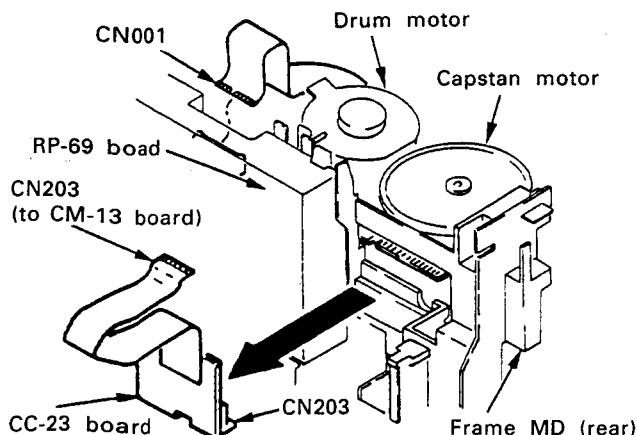


### 3-3-1. Removal of Power block and ST-41, IN-40, RP-69, and TU-100 boards

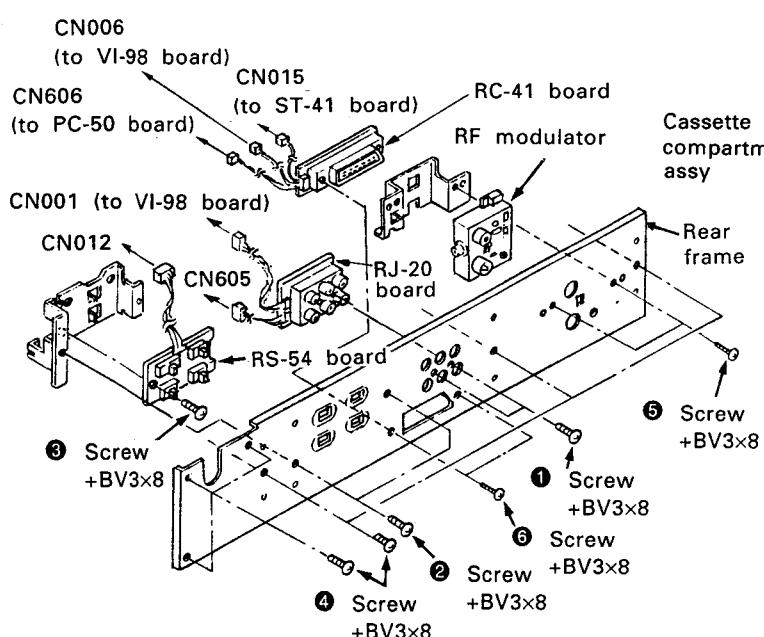


### 3-4. Removal of CM-13 and UC-3 boards

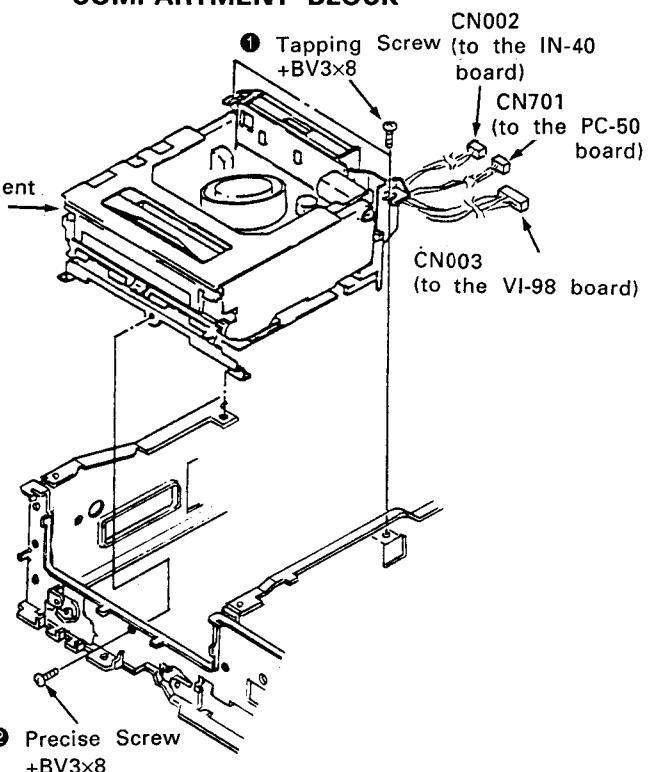
#### 3-3-2. Removal of CC-23 board



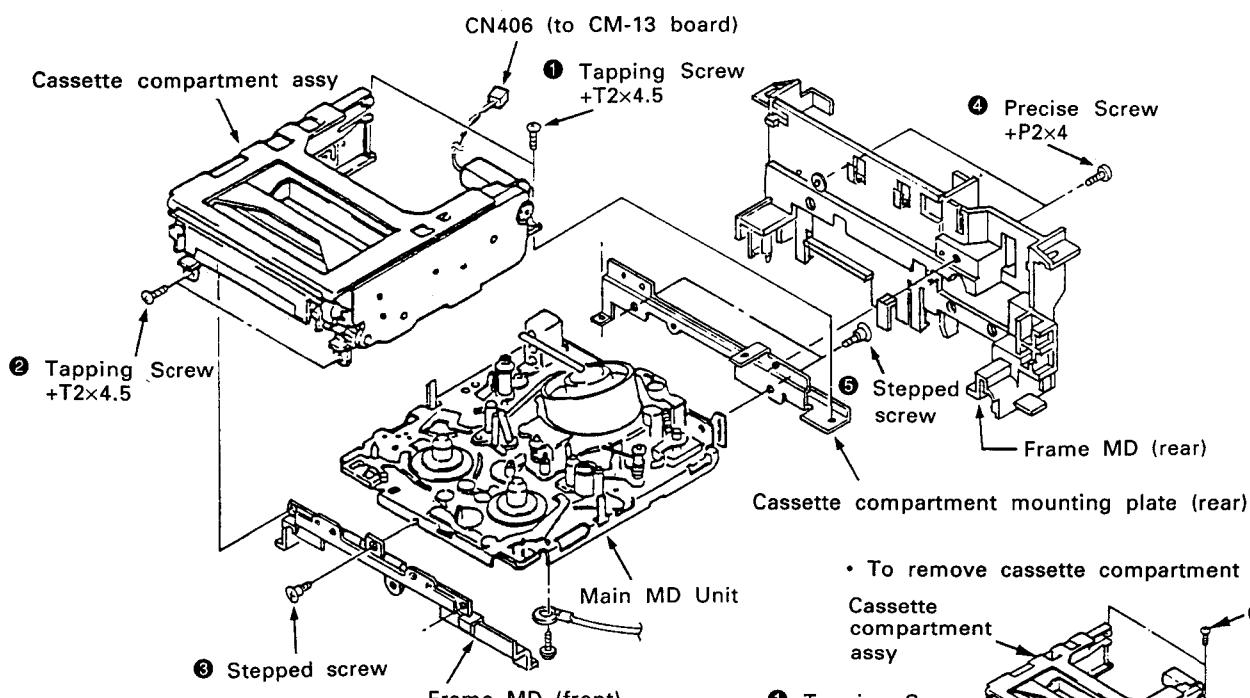
### 3-5. Removal of REAR FRAME, RF MODULATOR and RJ-20 board



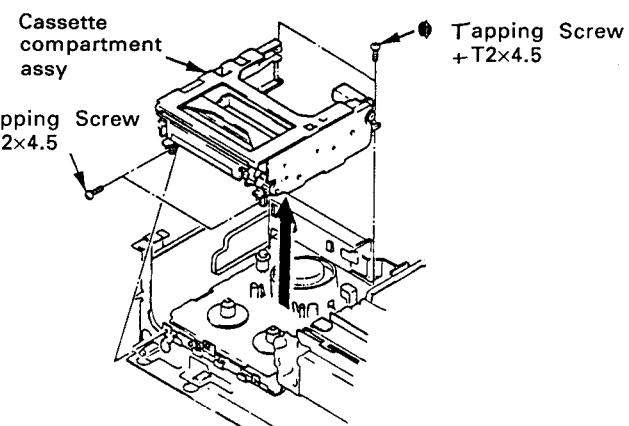
### 3-6. Removal of MD, and CASSETTE COMPARTMENT BLOCK



### 3-7. Removal of MAIN MD UNIT

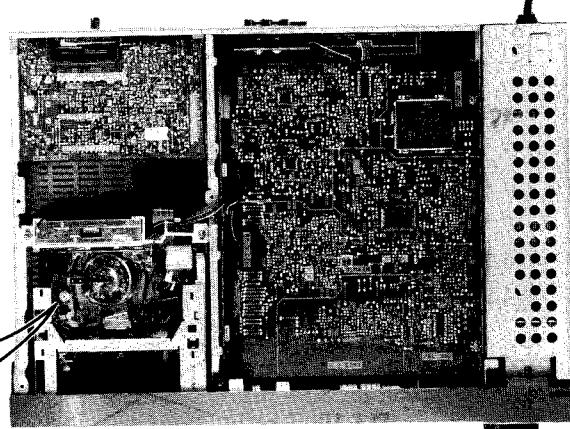
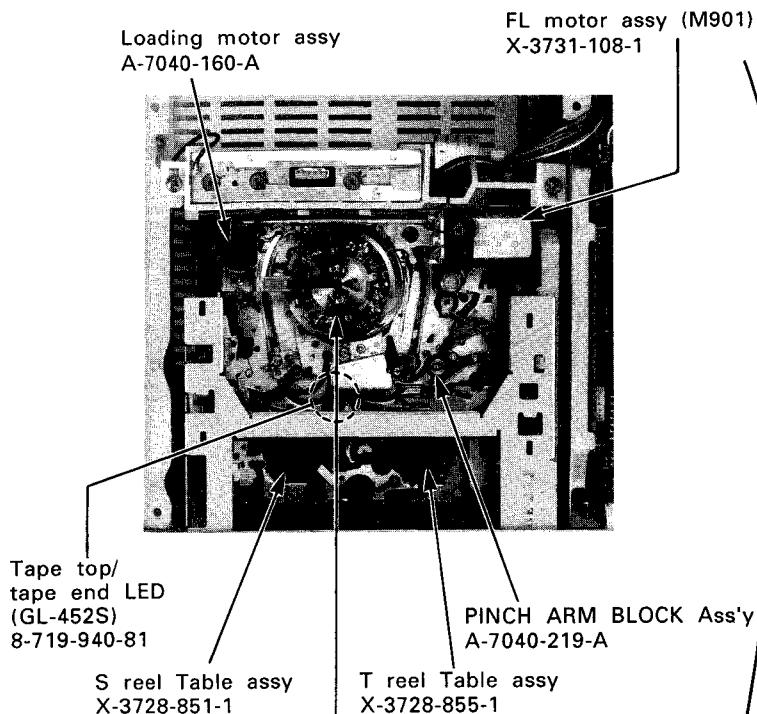


• To remove cassette compartment assy only

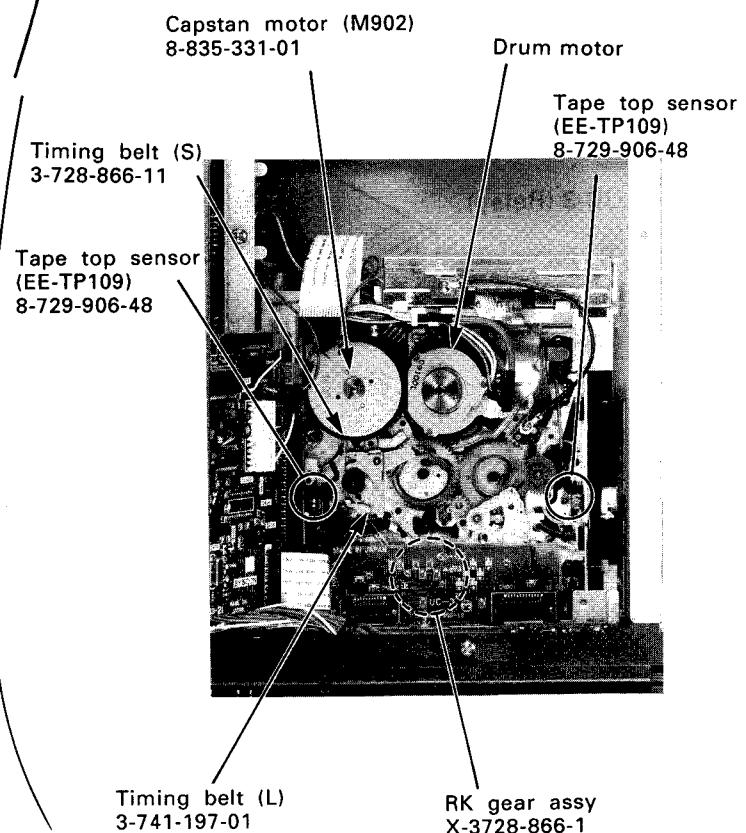
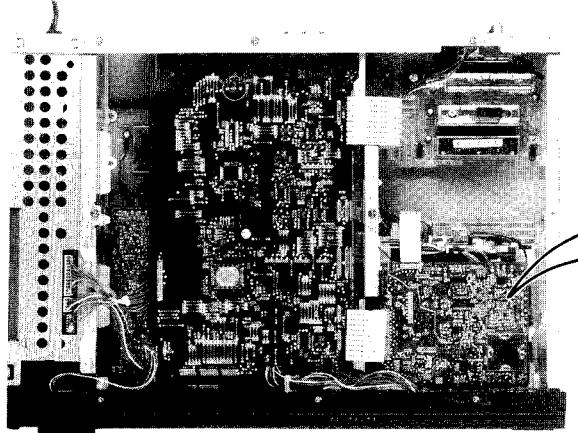


**3-8. INTERNAL VIEW OF MECHANICAL DECK  
UNIT AND NAME OF EACH PART**

- Upper side -



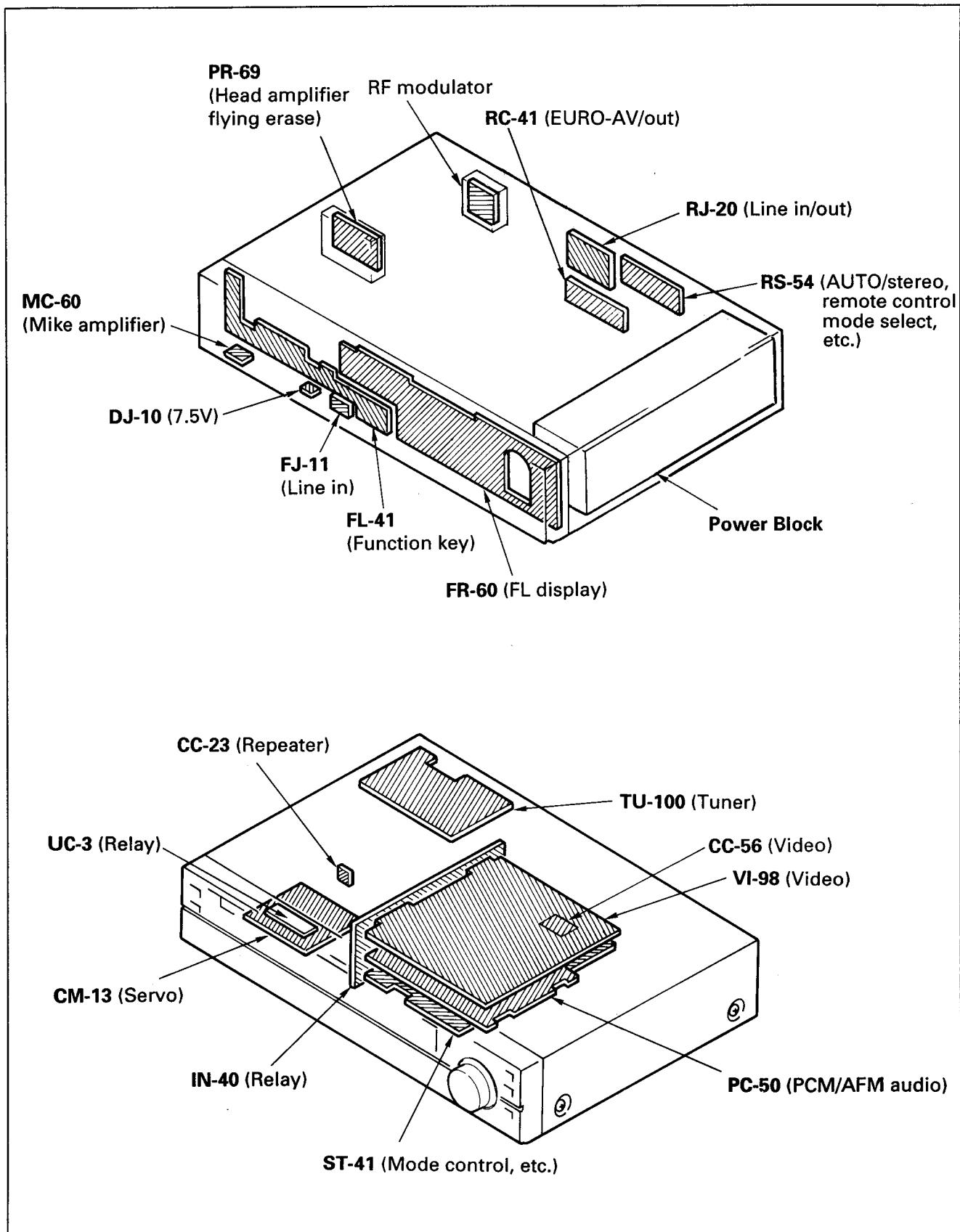
- Lower side -



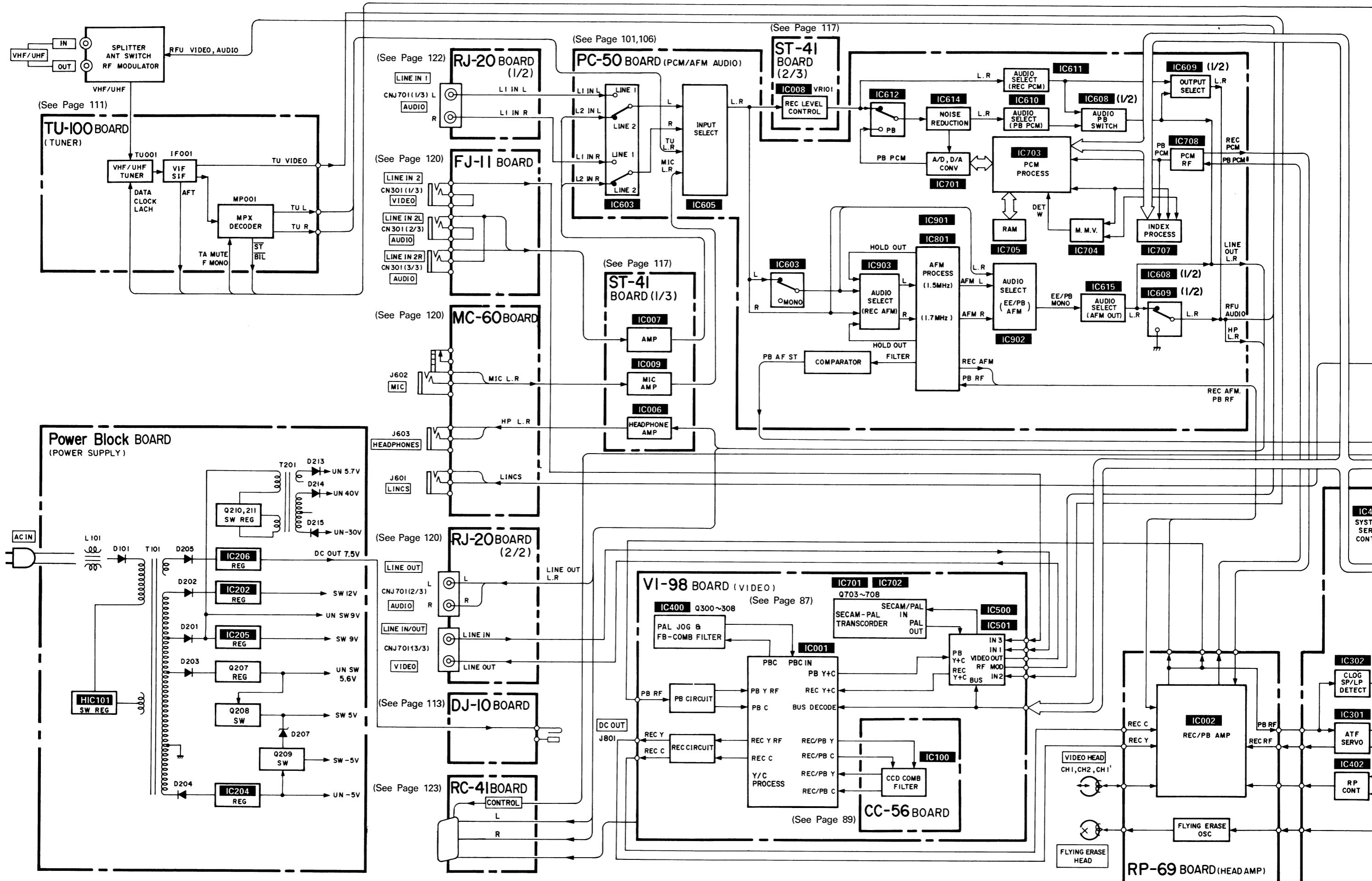
## SECTION 4

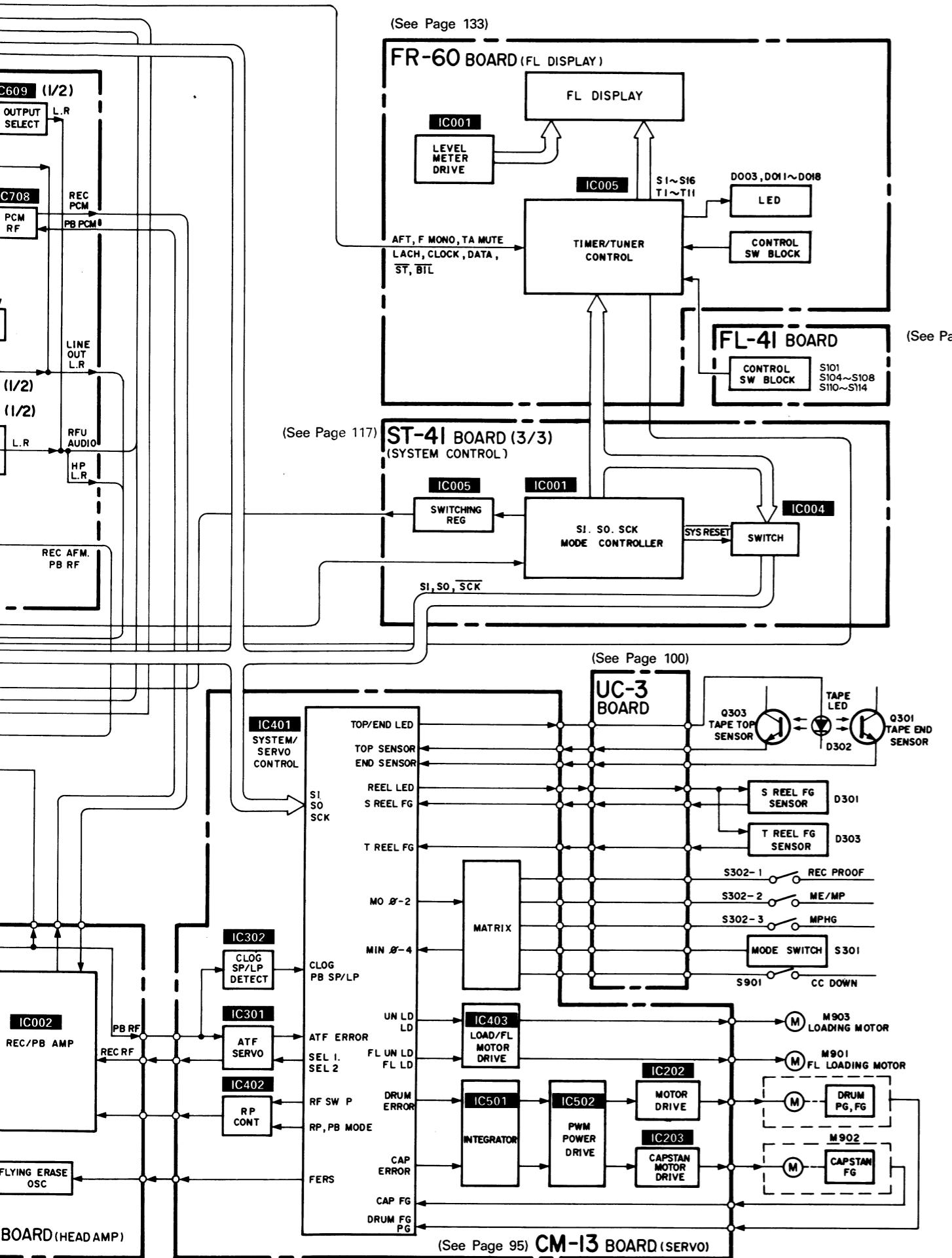
### DIAGRAMS

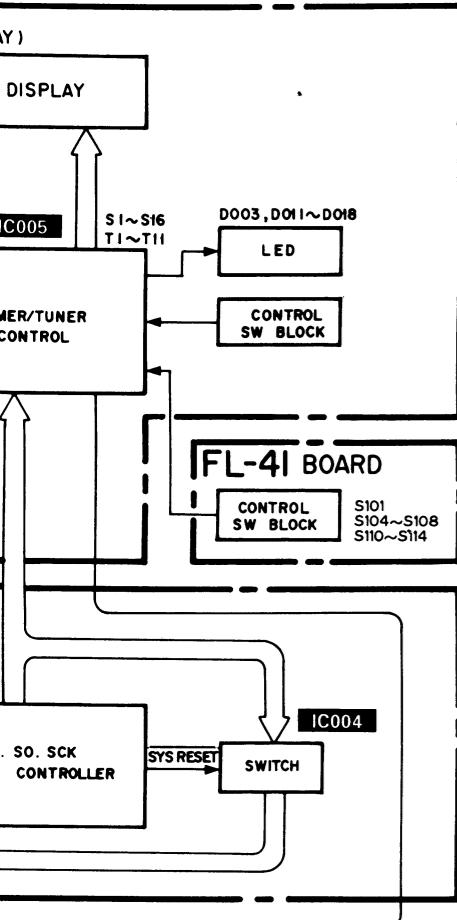
#### 4-1. CIRCUIT BOARDS LOCATION



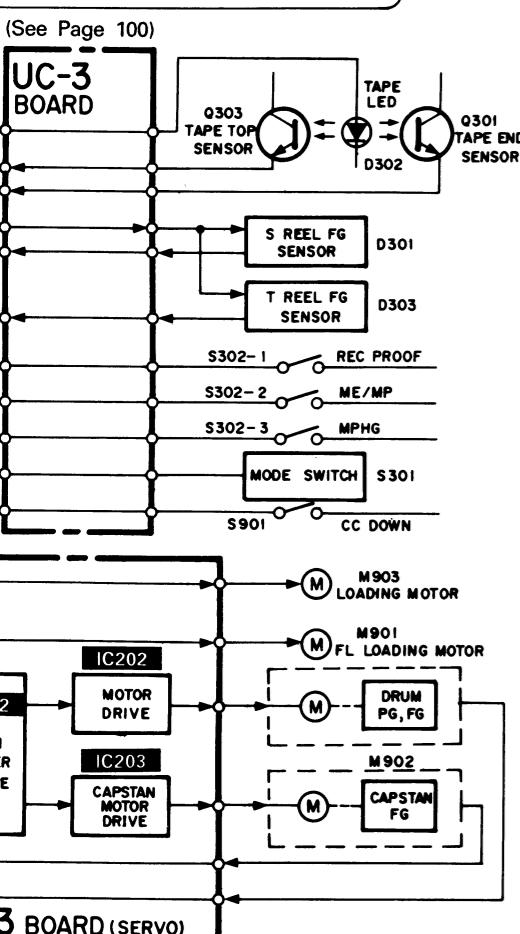
## 4-2. OVERALL BLOCK DIAGRAM







(See Page 125)

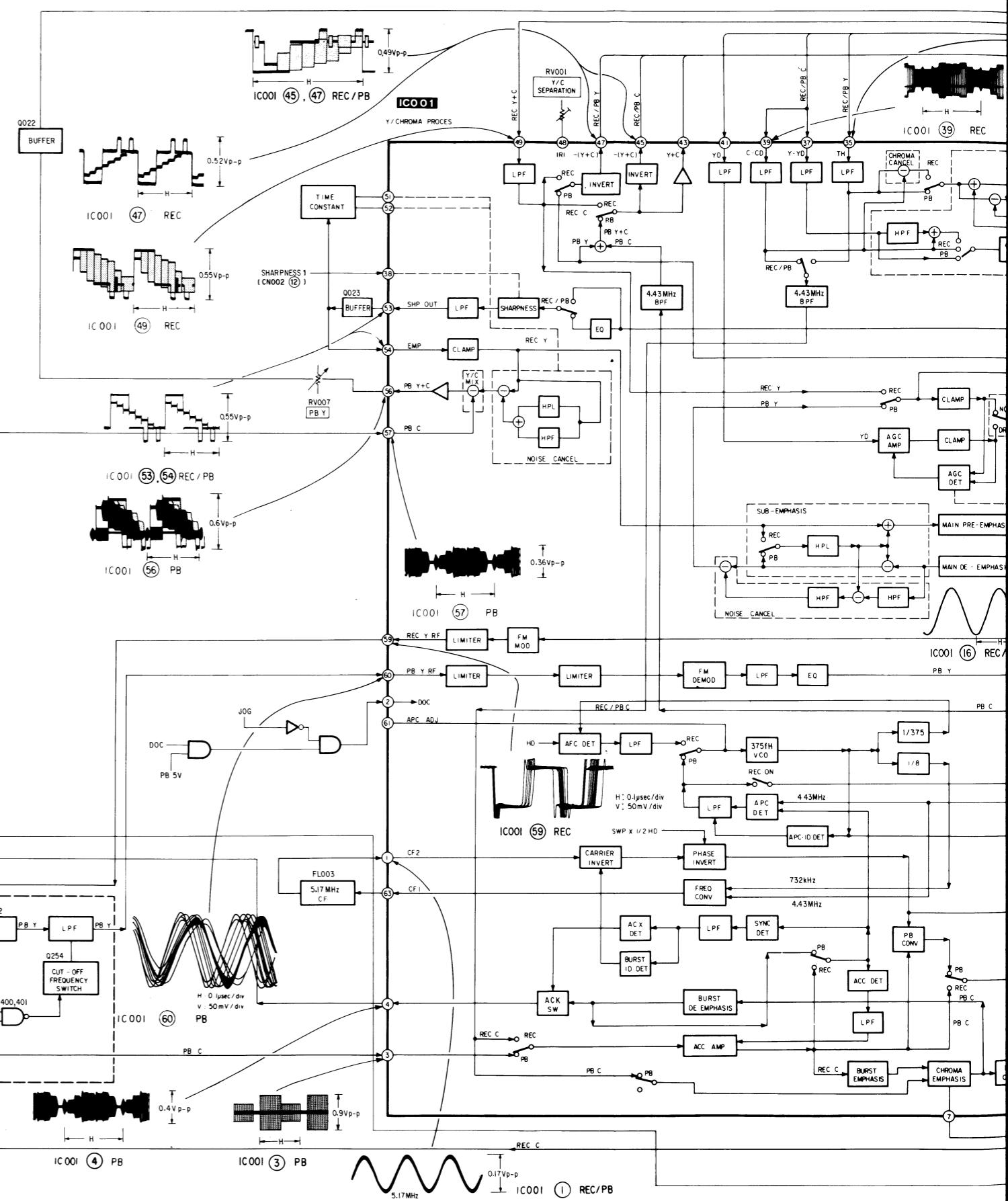
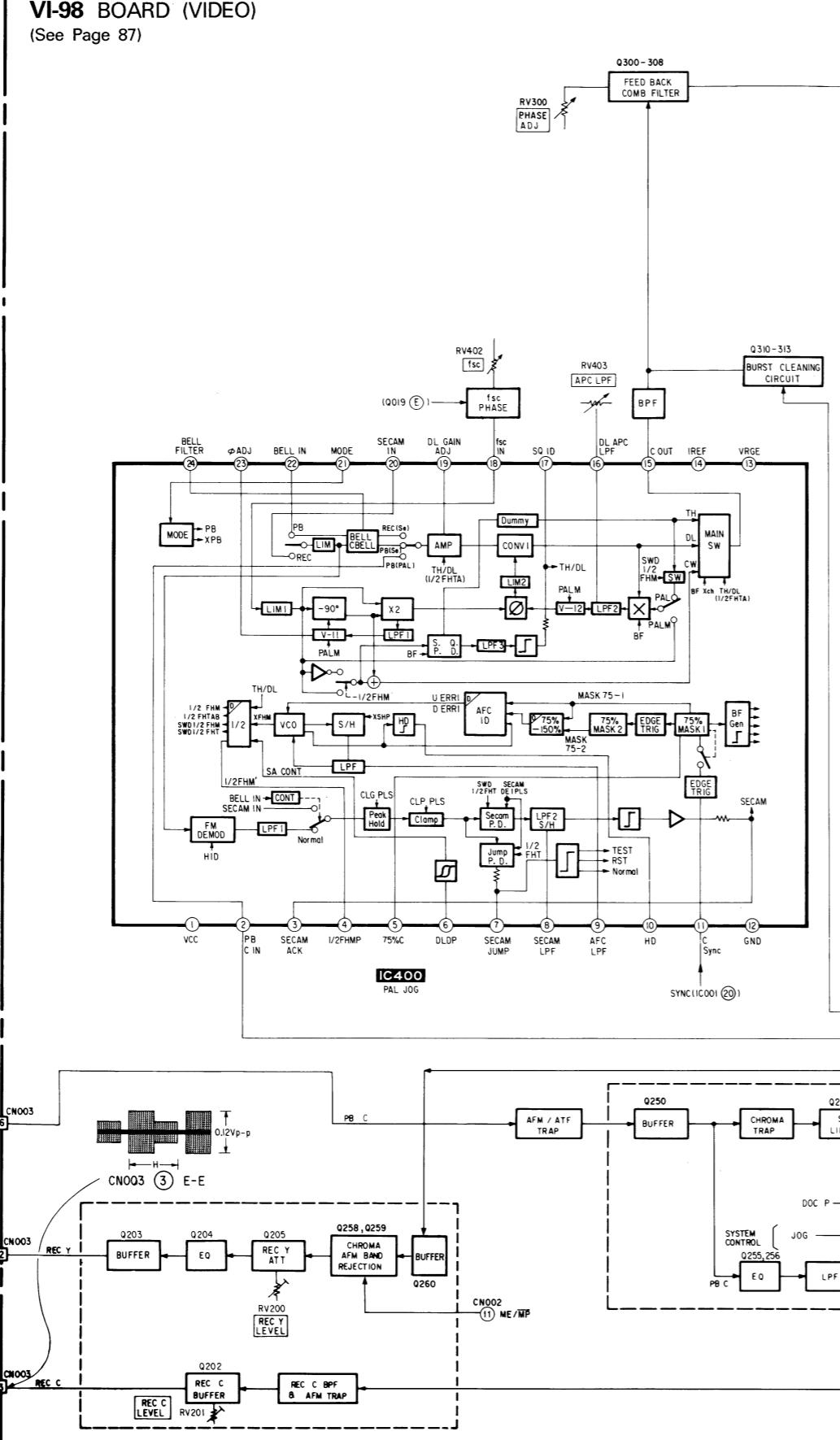


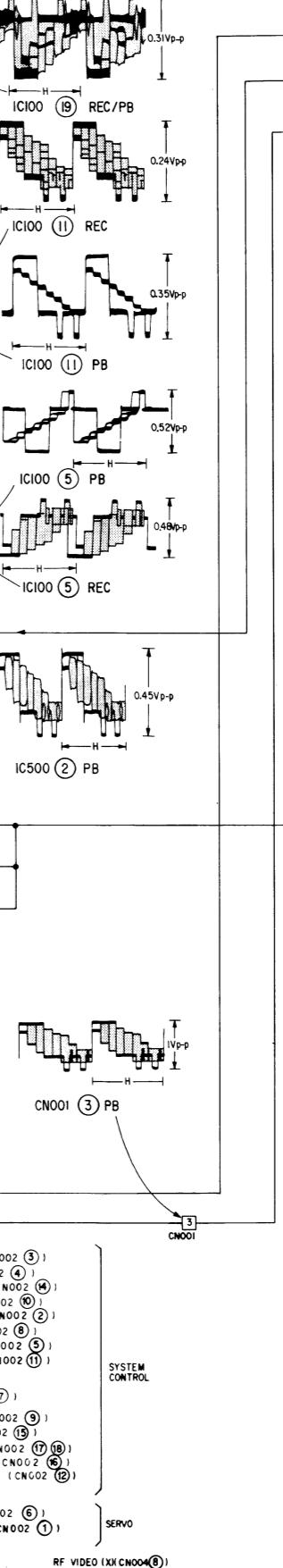
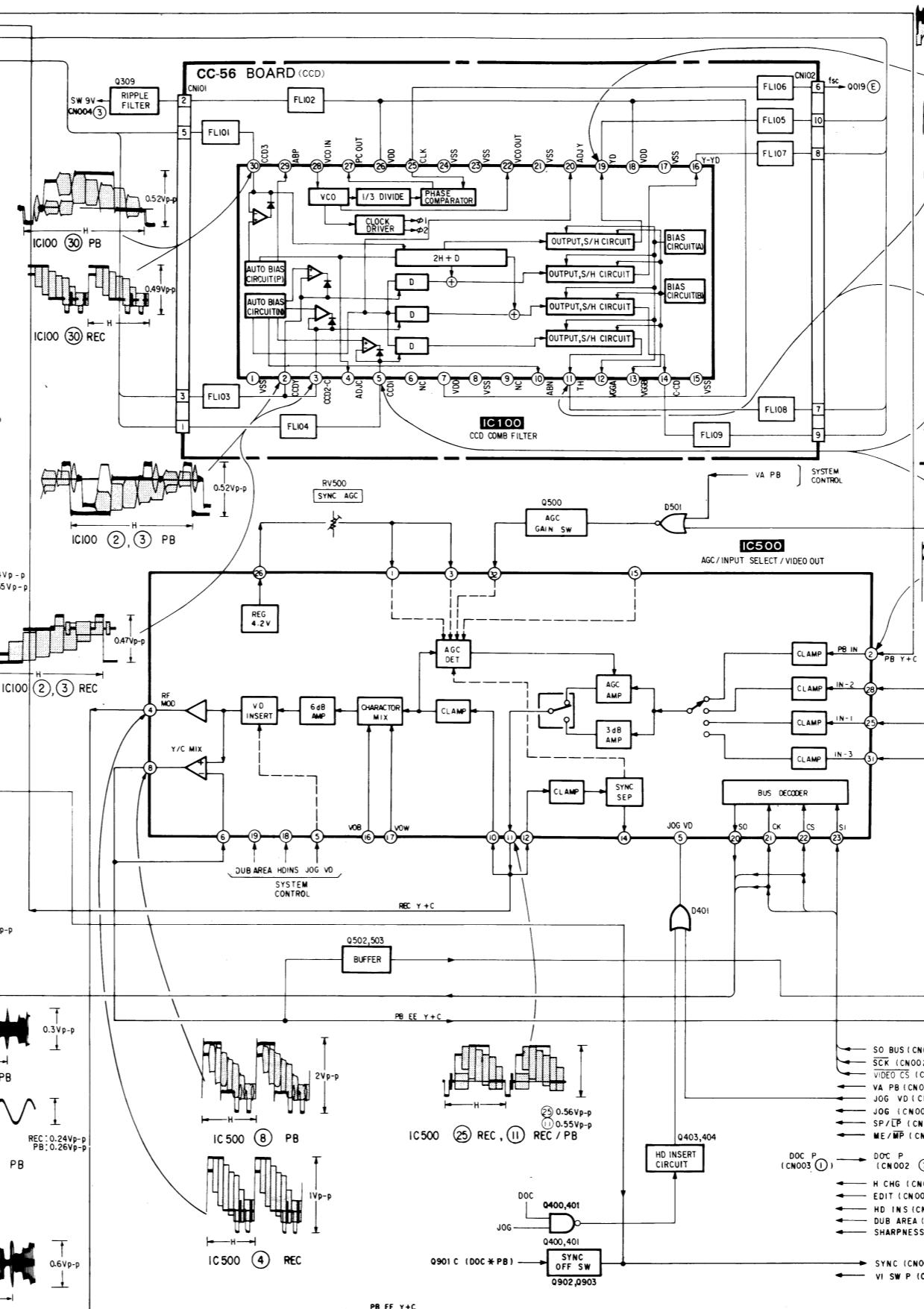
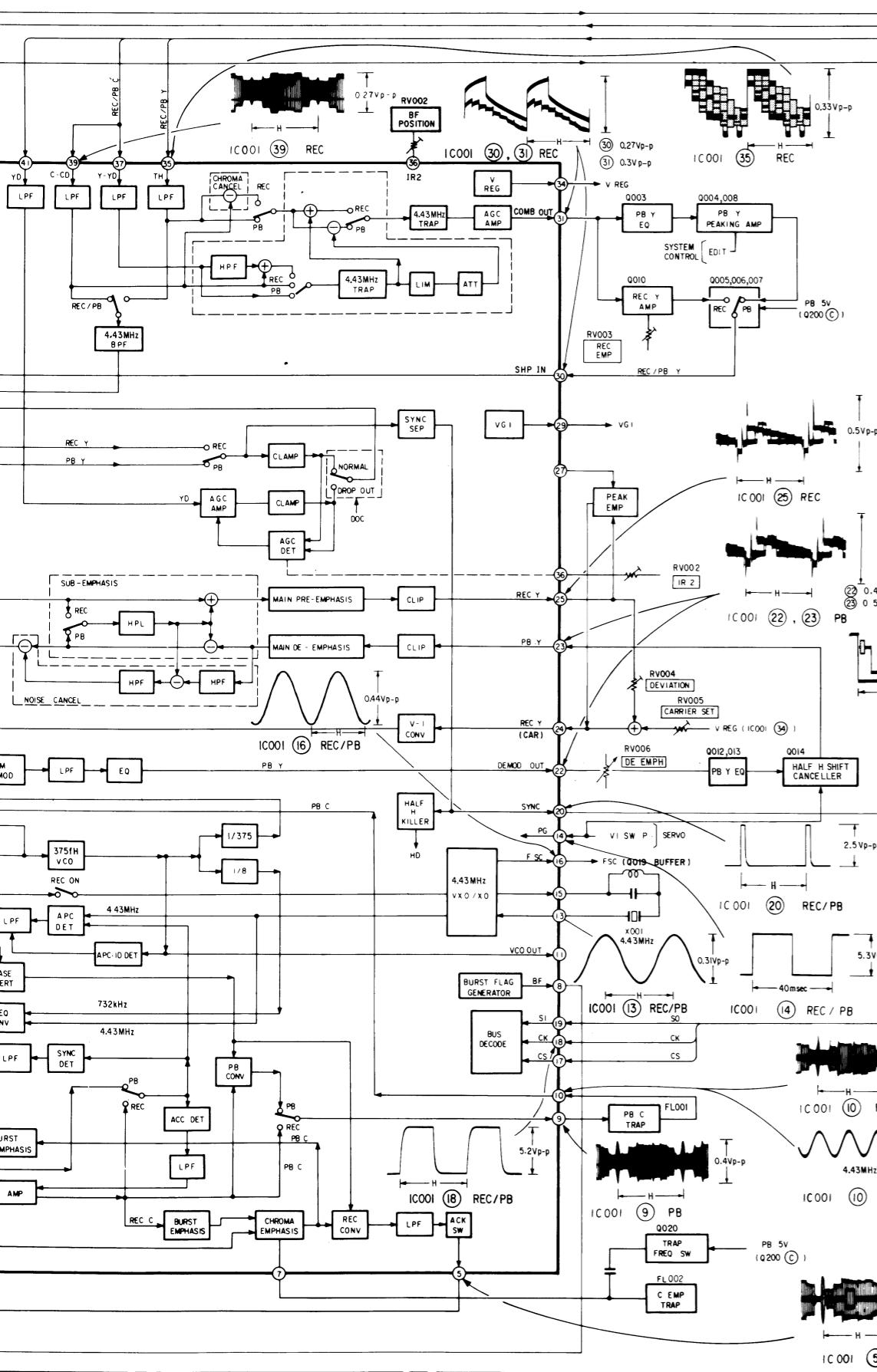
(See Page 100)

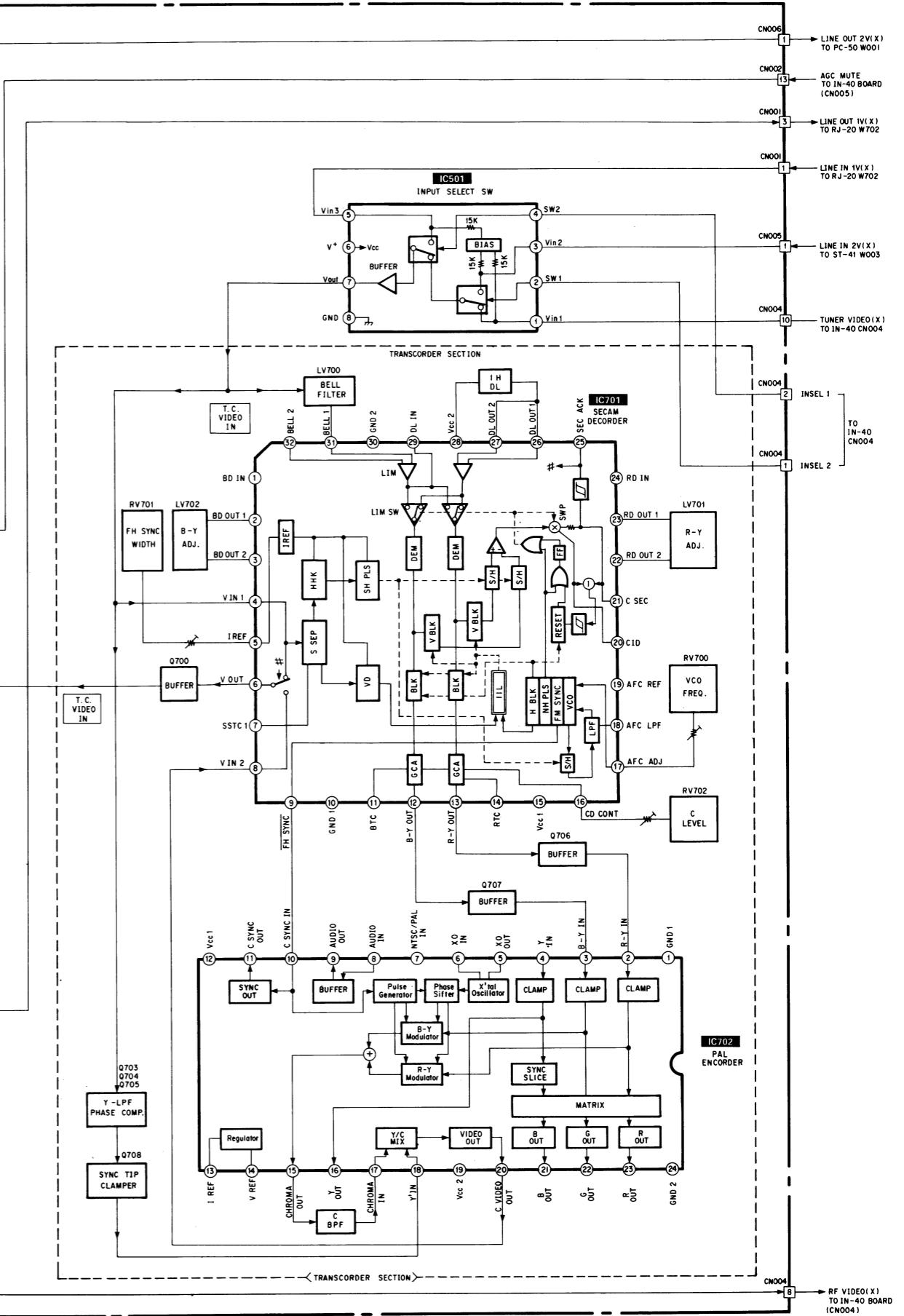
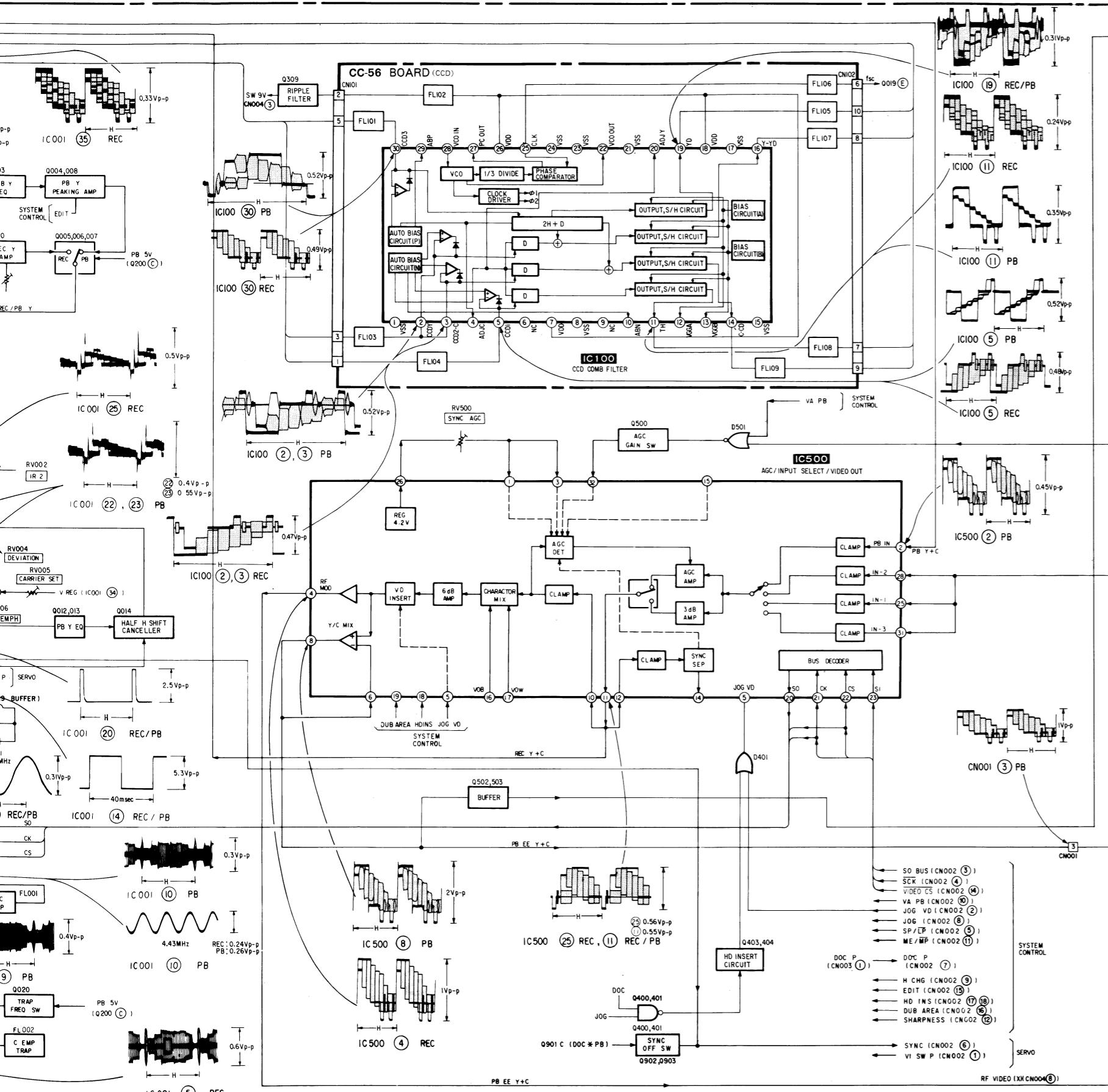
## 4-3. VIDEO BLOCK DIAGRAM

VI-98 BOARD (VIDEO)

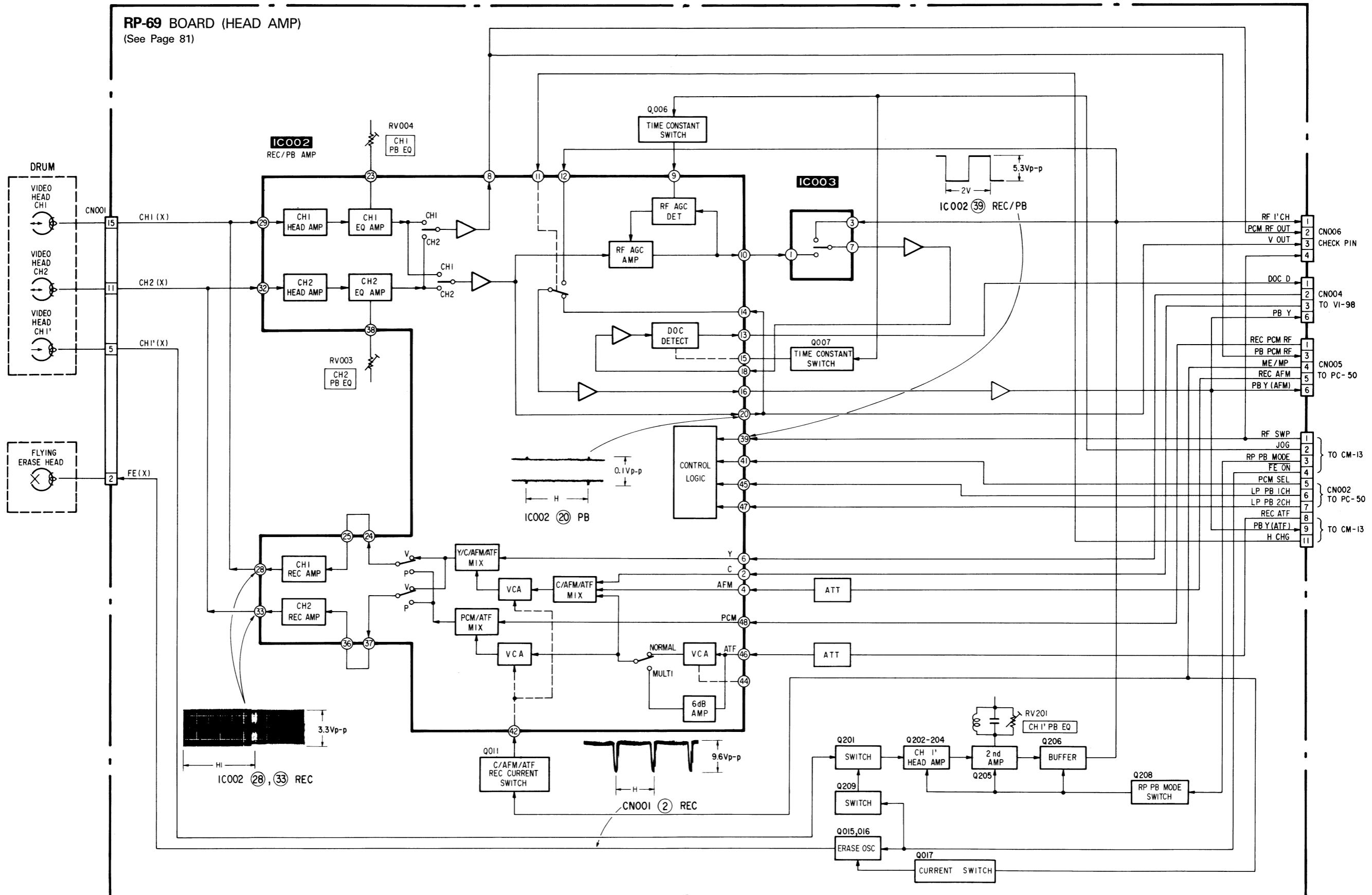
(See Page 87)





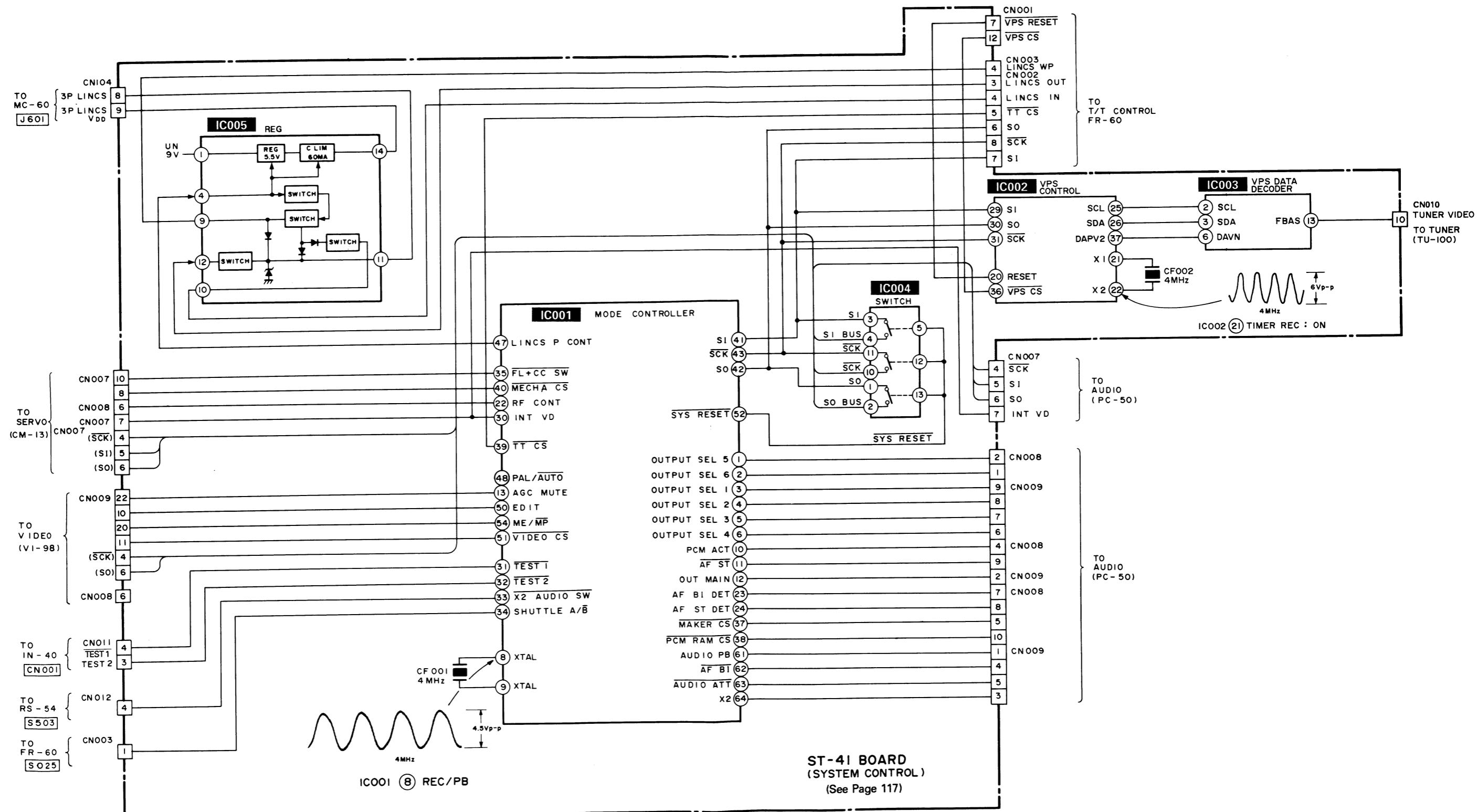


## 4-4. HEAD AMP BLOCK DIAGRAM

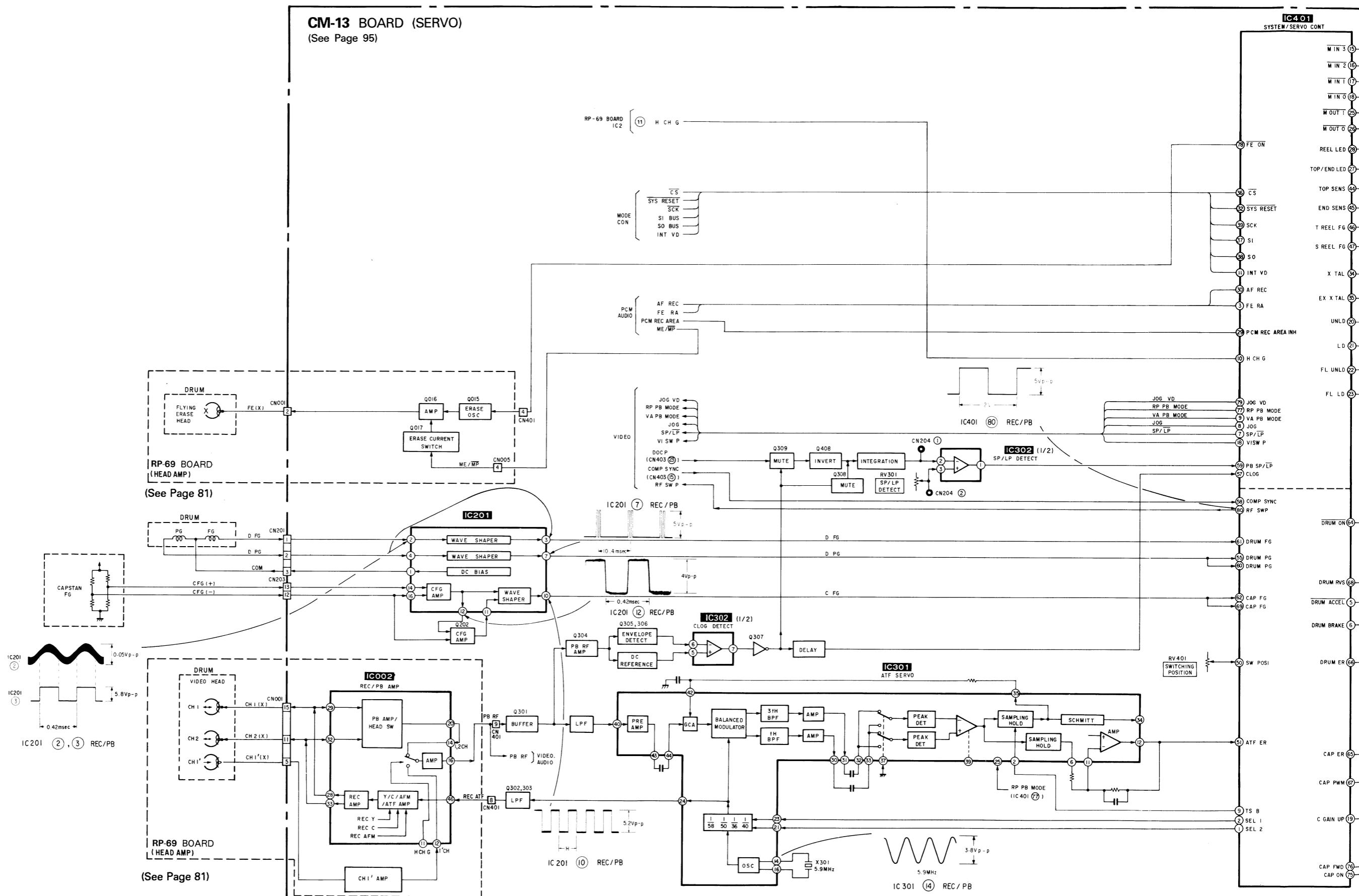


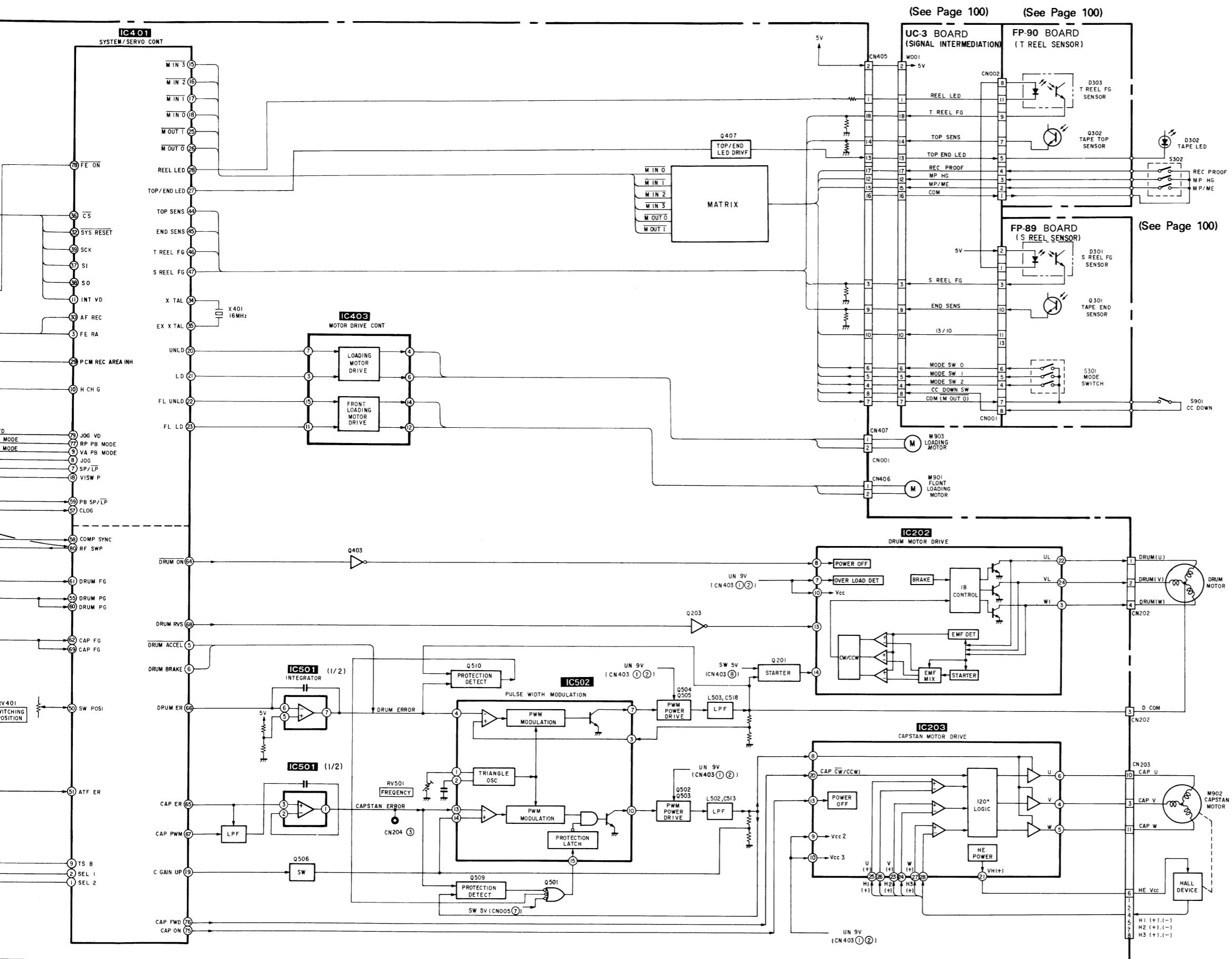
# EV-S550E

## 4-5. SYSTEM CONTROL BLOCK DIAGRAM



#### 4-6. SERVO BLOCK DIAGRAM





## 4-7. SYSTEM CONTROL - VIDEO, AUDIO BLOCK INTERFACE (IC401 ON CM-13 BOARD)

SIGNAL	I/O	Pin No.	EJECTED	THREADING	UN THREADING	STOP	FF	REW	CUE	REVIEW	PB	PB + PAUSE	REC	REC + PAUSE	X2	SLOW	AF REC	AF RECP.
SEL 2	O	IC401 ① pin	H	H	H	H	H	H	* 3	* 3	* 2	H	* 1	L	* 17	* 18	* 19	H
SEL 1	O	IC401 ② pin	H	H	H	H	H	H	* 3	* 3	* 2	H	* 1	H	* 17	* 18	* 19	H
DRUM ON	O	IC401 ⑥ pin	H	L	L	H	L	L	K	L	L	L	L	L	L	L	L	L
INT VD	O	IC401 ⑪ pin	* 4	* 4	* 4	* 4	* 4	* 4	* 4	* 4	* 4	* 4	* 4	* 4	* 4	* 4	* 4	* 4
SW POSI	I	IC401 ⑩ pin	* 5	* 5	* 5	* 5	* 5	* 5	* 5	* 5	* 5	* 5	* 5	* 5	* 5	* 5	* 5	* 5
ATF ERROR	I	IC401 ⑫ pin	* 6	* 6	* 6	* 6	* 7	* 7	* 7	* 7	* 7	* 6	* 6	* 7	* 7	* 7	* 7	* 7
DRUM PG	I	IC401 ⑯, ⑰ pin	L	* 8	* 8	L	* 8	* 8	* 8	* 8	* 8	* 8	* 8	* 8	* 8	* 8	* 8	* 8
DRUM FG	I	IC401 ⑮ pin	H	* 9	* 9	H	* 9	* 9	* 9	* 9	* 9	* 9	* 9	* 9	* 9	* 9	* 9	* 9
CAP FG	I	IC401 ⑯, ⑰ pin	H/L	PULSE	PULSE	H/L	* 10	* 10	* 10	* 10	* 10	H/L	* 10	H/L	* 10	H/L	* 10	H/L
CAP ERROR	O	IC401 ⑯ pin	* 11	* 11	* 11	L	* 11	* 11	* 11	* 11	* 11	L	* 11	L	* 11	* 11	* 11	L
DRUM ERROR	O	IC401 ⑯ pin	L	* 12	* 12	L	* 12	* 12	* 12	* 12	* 12	* 12	* 12	* 12	* 12	* 12	* 12	* 12
CAP PWM	O	IC401 ⑯ pin	L	* 13	* 13	L	13	* 13	* 13	* 13	* 13	L	* 13	L	* 13	* 13	* 13	L
DRUM RVS	O	IC401 ⑯ pin	"L"	* 14	L	L	L	L	L	L	L	L	L	L	L	L	L	L
CAP ON	O	IC401 ⑯ pin	L	H	H	L	H	H	H	H	L	H	L	H	H/L	H	L	
CAP FWD	O	IC401 ⑯ pin	L	L	H	L	H	L	H	L	H	H	L	H	H/L	H	L	
RF CONT	O	IC401 ⑯ pin	* 16	* 16	* 16	"H" or "L"	* 16	* 16	* 16	* 16	* 16	* 16	* 16	* 16	* 16	* 16	* 16	* 16

\* 1. See Timing Chart 1.

\* 2. See Timing Chart 2.

\* 3. See Timing Chart 3.

\* 4. 1V period "H" pulse

\* 5. DC voltage as set by RV102 (switching position adjustment)

\* 6. About 2.5 Vdc constant

\* 7. ATF error voltage

\* 8. 2V period "H" pulse

\* 9. 1.4 msec period pulse

\* 10. Pulse in the frequency proportional to tape speed

\* 11. Pulse output at the rise of capstan

\* 12. PWM signal of 6 msec period for 3 outputs of "H", "L" and "HIZ" (2.5Vdc)

\* 13. PWM signal of 64  $\mu$  sec period

\* 14. Becomes "H" instantaneously upon THREADING of Full Top tape (virgin tape)

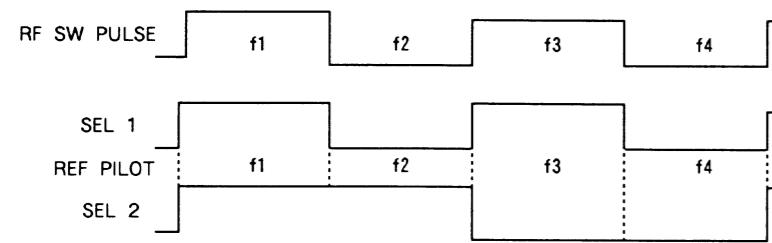
\* 16. 50% duty pulse of 2V period

## 4-8. SYSTEM

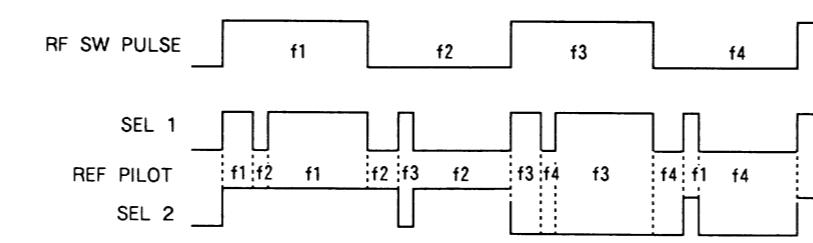
SIGNAL
LP PB 1 CH
LP PB 2 CH
JOG
SP/LP
SYS CON SO
SYS CON SCK
CLOG
COMP SYNC
PB SP/LP
RP PB MODE
FF ON
JOG VD
RF CONT * 1
* 1. Set the (SP... *
* 2. According (SP... *
* 3. 1V peri
* 5. "H" up
* 6. Positive
* 7. "H" wi
* 9. 1V peri

Timing Chart

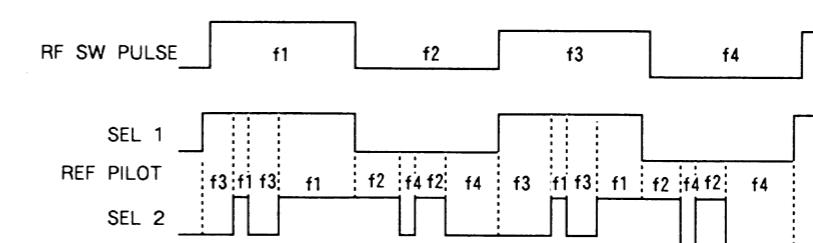
Timing Chart 1 (REC)



Timing Chart 2 (PB)



Timing Chart 3 (CUE/REVIEW)



RF SWP

SEL 1

REF PILOT

SEL 2

4-8. SYSTEM CONTROL – SERVO PERIPHERAL CIRCUIT INTERFACE (IC401 ON CM-13 BOARD)

SIGNAL	I/O	Pin No.	STOP	FF	REW	CUE	REVIEW	PB	PB + PAUSE	REC	REC + PAUSE	X2	SLOW	AF REC	AF REC PAUSE
LP PB 1 CH	O	IC401 ⑥ pin	H	H	H	H	H	H	H	2	H	H	H		
LP PB 2 CH	O	IC401 ⑦ pin	H	H	H	H	H	H	H	2	H	H	H		
JOG	O	IC401 ⑧ pin	L	L	L	H	H	L	H	L	L	H	H	L	H
SP/LP	O	IC401 ⑯ pin	H/L	H/L	H/L	* 1	* 1	* 1	* 1	* 2	* 2	* 1	* 1	* 1	* 1
SYS CON SO (SI)	O	IC401 ⑳ pin	* 9	* 9	* 9	* 9	* 9	* 9	* 9	* 9	* 9	* 9	* 9	* 9	* 9
SYS CON SCK (SCK)	I	IC401 ㉑ pin	* 10	* 10	* 10	* 10	* 10	* 10	* 10	* 10	* 10	* 10	* 10	* 10	* 10
CLOG	I	IC401 ㉒ pin	H	* 5	* 5	* 5	* 5	* 5	H	H	H	H	H	* H	H
COMP SYNC	I	IC401 ㉓ pin	* 6	* 6	* 6	* 6	* 6	* 6	* 6	* 6	* 6	* 6	* 6	* 6	* 6
PB SP/LP	I	IC401 ㉔ pin	L	* 7	* 7	* 7	* 7	L	L	L	L	L	L	L	L
RP PB MODE	O	IC401 ㉕ pin	L	L	L	H	H	H	H	L	L	H	H	H	H
FF ON	O	IC401 ㉖ pin	H	H	H	H	H	H	H	L	H	H	H	* 12	H
JOG VD	O	IC401 ㉗ pin	L	L	L	* 3	* 3	L	* 3	L	L	* 3	* 3	* 3	* 3
RF CONT * 1	O	IC401 ㉘ pin	1.8Vdc	* 11	* 11	* 11	* 11	* 11	* 11	* 11	* 11	* 11	* 11	* 11	* 11

\* 1. Set the recording mode replaying tape.

(SP... "H", LP... "L")

\* 2. According to the position of SP/LP selector (S602)

(SP... "H", LP... "L")

\* 3. 1V period "H" pulse

\* 5. "H" upon no signal. Normally "L."

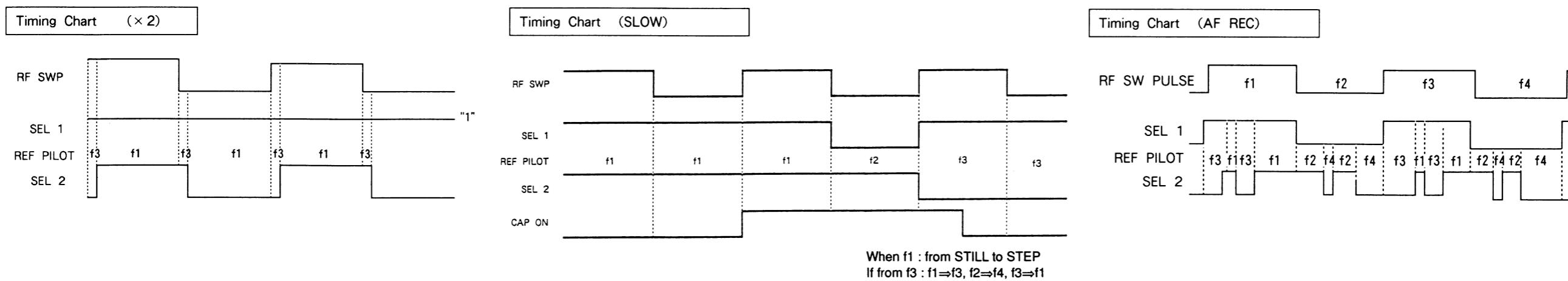
\* 6. Positive polarity complex synchronization signal

\* 7. "H" with the tape recorded in SP mode. "L" with the tape recorded in LP mode.

\* 9. 1V period "L" pulse string

\* 10. Pulse of the frequency proportional to tape speed

\* 11. 50% duty pulse of 2V period.



4-9. SYSTEM CONTROL - SYSTEM CONTROL PERIPHERAL CIRCUIT INTERFACE (IC401 ON CM-13 BOARD)

SIGNAL	I/O	Pin No.	INPUT/OUTPUT LEVEL
SYSCON SCK	I	IC401 ⑩ Pin	1V period "L" pulse string.
CLOG	I	IC401 ⑪ Pin	"L" in normal replaying. "H" when PB RF signal cannot be replayed because of head jam or no signal.
PB SP/LP	I	IC401 ⑫ Pin	Discriminates tape recording mode in tape high-speed running mode (FF, REW, CUE, REVIEW). "H" or "L" in SP or LP mode respectively.
UNLD	O	IC401 ⑬ Pin	Normally "L." "H" in UNTHREADING. "H" pulse during transition to mechanical mode.
LD	O	IC401 ⑭ Pin	Normally "L." "H" in THREADING. "H" pulse during transition to mechanical mode.
FL UNLD	O	IC401 ⑮ Pin	Normally "L." "H" in front loading.
LD	O	IC401 ⑯ Pin	Normally "L." "H" in front unloading.
FERA	O	IC401 ⑰ Pin	"H" with mask area in after-recording. Normally "L."
DRUM ACCELL	O	IC401 ⑱ Pin	Normally "L." Instantly "L" in SLOW.
DRUM BRAKE	O	IC401 ⑲ Pin	Normally "L." Instantly "H" in LP SLOW.
H CHG MECHA	O	IC401 ⑳ Pin	Normally "L." The phase is reversed to SWP in SLOW, $\times 2$ or STILL.
C GAIN UP	O	IC401 ㉑ Pin	"H" in FF/REW. Normally "L."
REEL LED	O	IC401 ㉒ Pin	Reel LED flickering pulse.
PCM REC INH	O	IC401 ㉓ Pin	"L" in PCM REC. Normally "H."
AF REC	O	IC401 ㉔ Pin	Normally "L." "H" in after-recording.
VI SWP	O	IC401 ㉕ Pin	Normally "H" in the same SLOW, STILL or $\times 2$ as SWP.
TS B	O	IC401 ㉖ Pin	ATF AGC pulse.
PCM PB	O	IC401 ㉗ Pin	"H" in PCM PB.

4-10. SYSTEM CONTROL - MECHANISM CONTROL BLOCK INTERFACE (IC401, CN405 ON CM-13 BOARD)

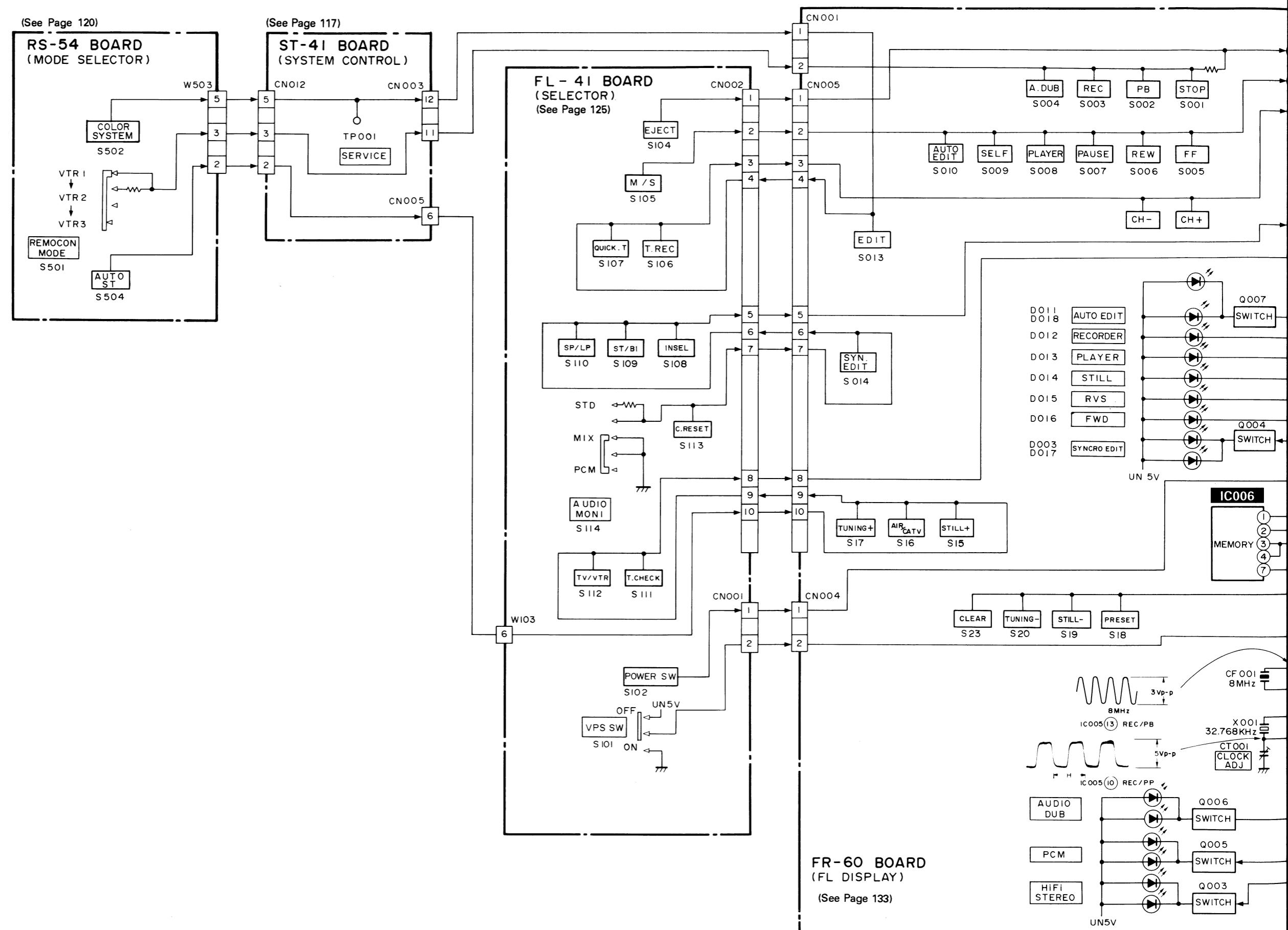
SIGNAL	I/O	Pin No.	INPUT/OUTPUT LEVEL				
S REEL FG	I	IC401 ㉘ Pin	This pulse (5.0 Vp-p) is generated as reel S revolved. Its period is about 1 sec in REC/PB (SP) mode.				
MODE SW 2	I	CN405 ㉙ Pin	Connected to the mode switch to detect input position.				
MODE SW 1	I	CN405 ㉚ Pin		EJECTED	THREADING UNTHREADING	STOP	REC/PB/FF/ REW/CUE/REVIEW /PAUSE
MODE SW 0	I	CN405 ㉛ Pin	MODE SW 2 (㉙-㉜)	○	×	×	○
			MODE SW 1 (㉚-㉜)	○	○	○	×
			MODE SW 0 (㉛-㉜)	×	×	○	○
M OUT 0 (COM)	O	CN405 ㉜ Pin					× ...Open ○ ...Short
CC DOWN	I	CN405 ㉝ Pin	Connected to the switch (CC DOWN switch) to detect cassette compartment down. With cassette compartment located on the bottom - Pins ㉝-㉜ are shorted.				
M OUT 0 (COM)	O	CN405 ㉞ Pin	With cassette compartment located at the top.....Pins ㉝-㉜ are open.				
END SENS	I	CN405 ㉟ Pin	Pins ㉝-㉜ are open when front loading is operating. Normally "L."				
13/10	I	CN405 ㉟ Pin	"H" pulse upon tape end or without cassette. This is not in use.				
MP HG	I	CN405 ㉟ Pin	"H" pulse when normal MP tape is used. (20 msec period) "L" pulse of about 1 Vp-p.				
TOP END LED	I	CN405 ㉟ Pin	Pulse period varies 12 - 170 msec depending on operation mode. Normally "L."				
TOP SENS	O	CN405 ㉟ Pin	"H" pulse upon tape top or without cassette. "L" with MP tape in use.				
ME/MP	I	CN405 ㉟ Pin	"H" pulse without cassette. (20 msec period) "L" with recordable cassette mounted.				
REC PROOF	I	CN405 ㉟ Pin	"H" pulse when REC protected cassette is mounted. (20 msec period)				
T REEL FG	I	CN405 ㉟ Pin	Pulse generated by the revolution of reel T (5.0 Vp-p). About 1 sec period in REC/PB (SP) mode.				

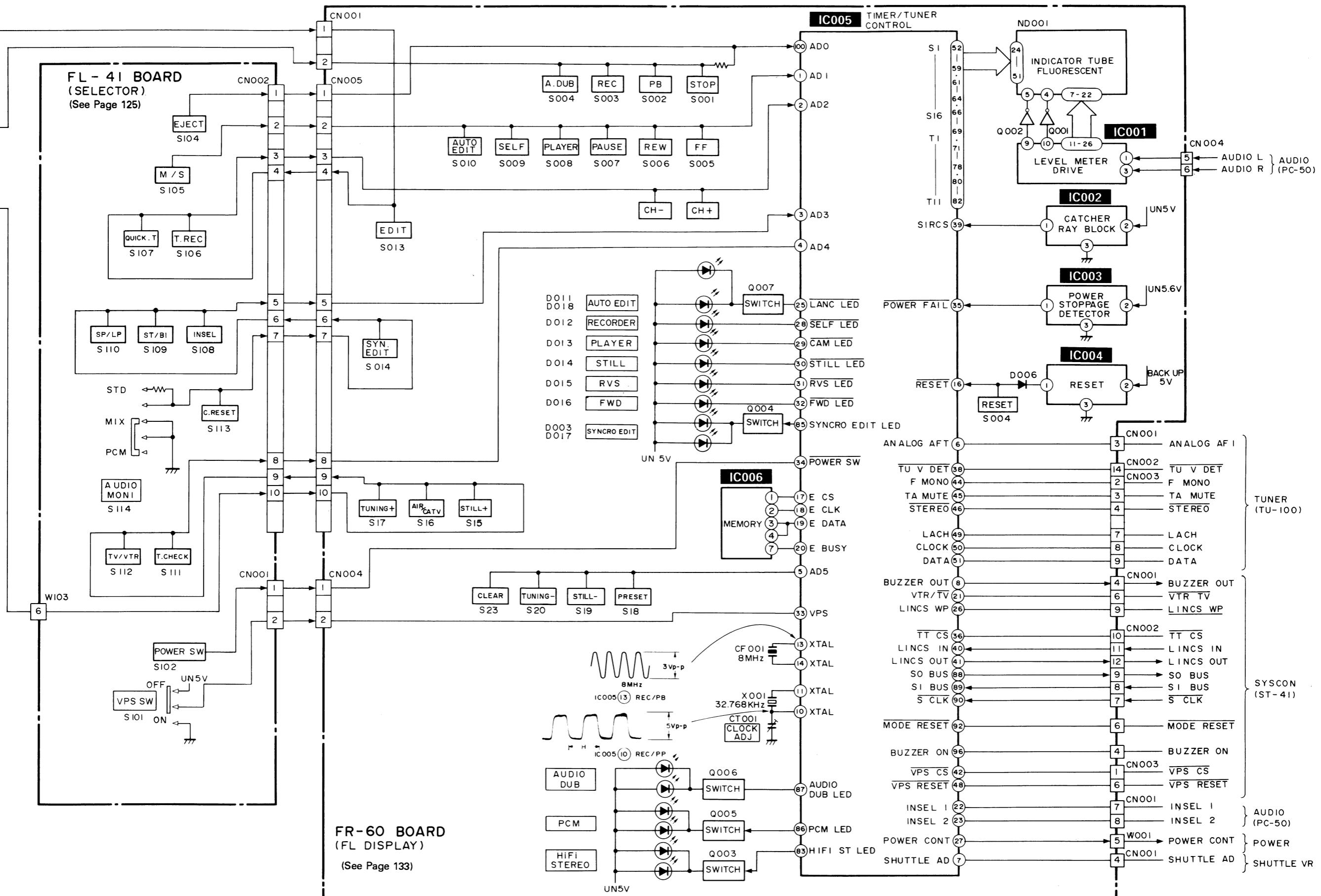
RD)

## 4-10. SYSTEM CONTROL - MECHANISM CONTROL BLOCK INTERFACE (IC401, CN405 ON CM-13 BOARD)

SIGNAL	I/O	Pin No.	INPUT/OUTPUT LEVEL								
S REEL FG	I	IC401 ⑦ Pin	This pulse (5.0 Vp-p) is generated as reel S revolved. Its period is about 1 sec in REC/PB (SP) mode.								
MODE SW 2	I	CN405 ④ Pin	Connected to the mode switch to detect input position.								
MODE SW 1	I	CN405 ⑤ Pin		EJECTED	THREADING UNTHREADING	STOP	REC/PB/FF/ REW/CUE/REVIEW /PAUSE				
MODE SW 0	I	CN405 ⑥ Pin		○	×	×	○				
M OUT 0 (COM)	O	CN405 ⑦ Pin		○	○	○	×				
				x ...Open		○ ...Short					
CC DOWN	I	CN405 ⑧ Pin	Connected to the switch (CC DOWN switch) to detect cassette compartment down. With cassette compartment located on the bottom - Pins ⑧-⑦ are shorted.								
M OUT 0 (COM)	O	CN405 ⑦ Pin	With cassette compartment located at the top.....Pins ⑧-⑦ are open.								
END SENS	I	CN405 ⑨ Pin	Pins ⑧-⑦ are open when front loading is operating. Normally "L."								
13/10	I	CN405 ⑩ Pin	"H" pulse upon tape end or without cassette. This is not in use.								
MP HG	I	CN405 ⑫ Pin	"H" pulse when normal MP tape is used. (20 msec period) "L" pulse of about 1 Vp-p.								
TOP END LED	I	CN405 ⑬ Pin	Pulse period varies 12 - 170 msec depending on operation mode. Normally "L."								
TOP SENS	O	CN405 ⑭ Pin	"H" pulse upon tape top or without cassette. "L" with MP tape in use.								
ME/MP	I	CN405 ⑮ Pin	"H" pulse without cassette. (20 msec period) "L" with recordable cassette mounted.								
REC PROOF	I	CN405 ⑯ Pin	"H" pulse when REC protected cassette is mounted. (20 msec period)								
T REEL FG	I	CN405 ⑰ Pin	Pulse generated by the revolution of reel T (5.0 Vp-p). About 1 sec period in REC/PB (SP) mode.								

#### **4-11. T/T MICROCOMPUTER (CONTROL DISPLAY) BLOCK DIAGRAM**





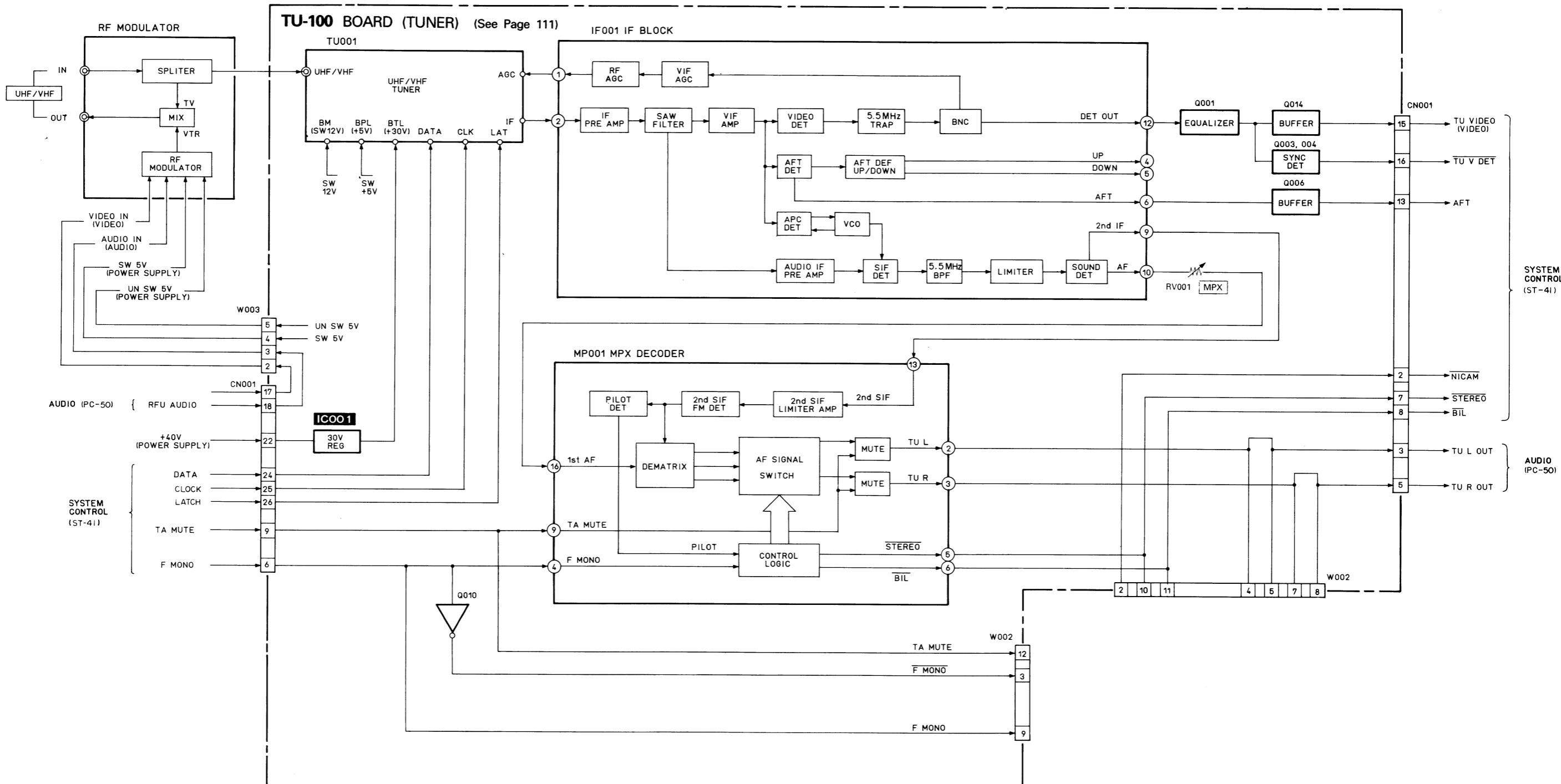
4-12. MODE CONTROL - MODE CONTROL PERIPHERAL CIRCUIT INTERFACE (IC001 ON ST-41 BOARD)

SIGNAL	I/O	Pin No.	INPUT/OUTPUT LEVEL
OUT PUT SEL 5	O	IC001 ① Pin	"L" with AUDIO monitor switch in PCM.
OUT PUT SEL 6	O	IC001 ② Pin	"L" with AUDIO monitor switch in PCM.
OUT PUT SEL 1	O	IC001 ③ Pin	"H" with AUDIO monitor switch in PCM. However, MONO STEREO.
OUT PUT SEL 2	O	IC001 ④ Pin	"H" with AUDIO monitor switch in PCM. However, MONO STEREO.
OUT PUT SEL 3	O	IC001 ⑤ Pin	"H" with AUDIO monitor switch in PCM. However, MONO STEREO.
OUT PUT SEL 4	O	IC001 ⑥ Pin	"H" with AUDIO monitor switch in PCM. However, MONO STEREO.
PCM ACT	I	IC001 ⑩ Pin	"H" when PCM recorded tape is replayed.
AF ST	O	IC001 ⑪ Pin	"L" when AFM stereo recorded tape is replayed.
AF BIL DET	I	IC001 ⑫ Pin	"L" when AFM bilingual recorded tape is replayed.
AF ST DET	I	IC001 ⑬ Pin	"L" when AFM stereo recorded tape is replayed.
MAKER CS	O	IC001 ⑭ Pin	"L" pulse of 1V period. (only when power is ON)
PCM RAM CS	O	IC001 ⑮ Pin	"L" pulse of 1V period. (only when power is ON)
TT CS	O	IC001 ⑯ Pin	"L" pulse of 1V period.
MECHA CS	O	IC001 ⑰ Pin	"L" pulse of 1V period. (only when power is ON)
LINCS P COST	O	IC001 ⑱ Pin	"H" when power is ON and LANC M/S = S.
V MUTE	O	IC001 ⑲ Pin	"H" when VIDEO is muted.
SYS RESET	O	IC001 ⑳ Pin	"H" when power is ON.
ME/MP	O	IC001 ㉑ Pin	"H" with MPHG cassette mounted.
OUT PB	O	IC001 ㉒ Pin	"H" upon replaying.
VIDEO PB	O	IC001 ㉓ Pin	"H" upon replaying.
AUDIO PB	O	IC001 ㉔ Pin	"H" upon replaying. ("L" upon AUDIO INSERT)
AF BIL	O	IC001 ㉕ Pin	"L" when AFM bilingual recorded tape is replayed.
AUDIO ATT	O	IC001 ㉖ Pin	"L" when index mark is detected in replaying.
X2	O	IC001 ㉗ Pin	X2
VIDEO CS	O	IC001 ㉘ Pin	"L" pulse of 1V period. (only when power is ON)

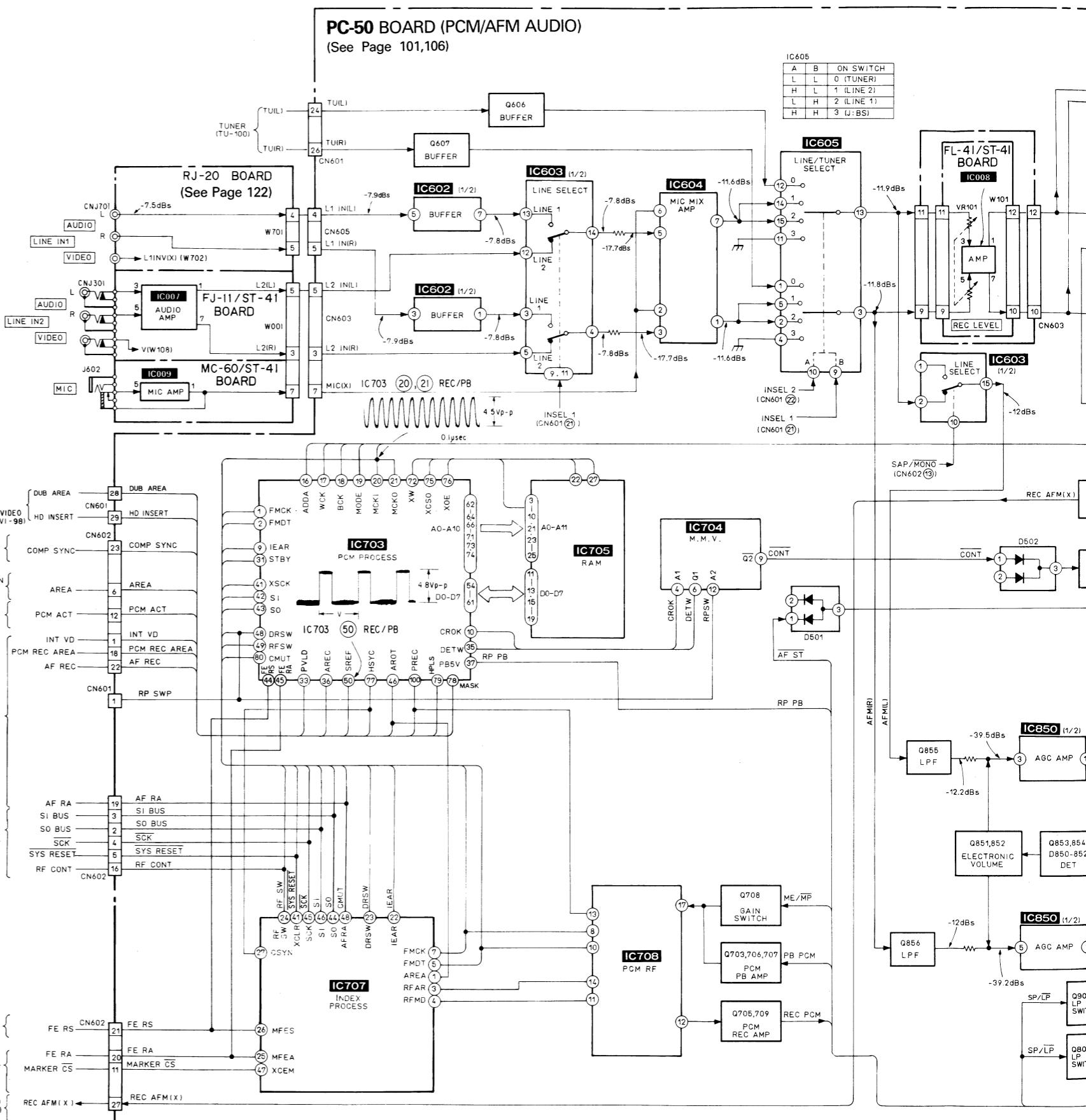
4-13. TIMER/TUNER CONTROL - TIMER/TUNER PERIPHERAL INTERFACE (IC005 ON FR-60 BOARD)

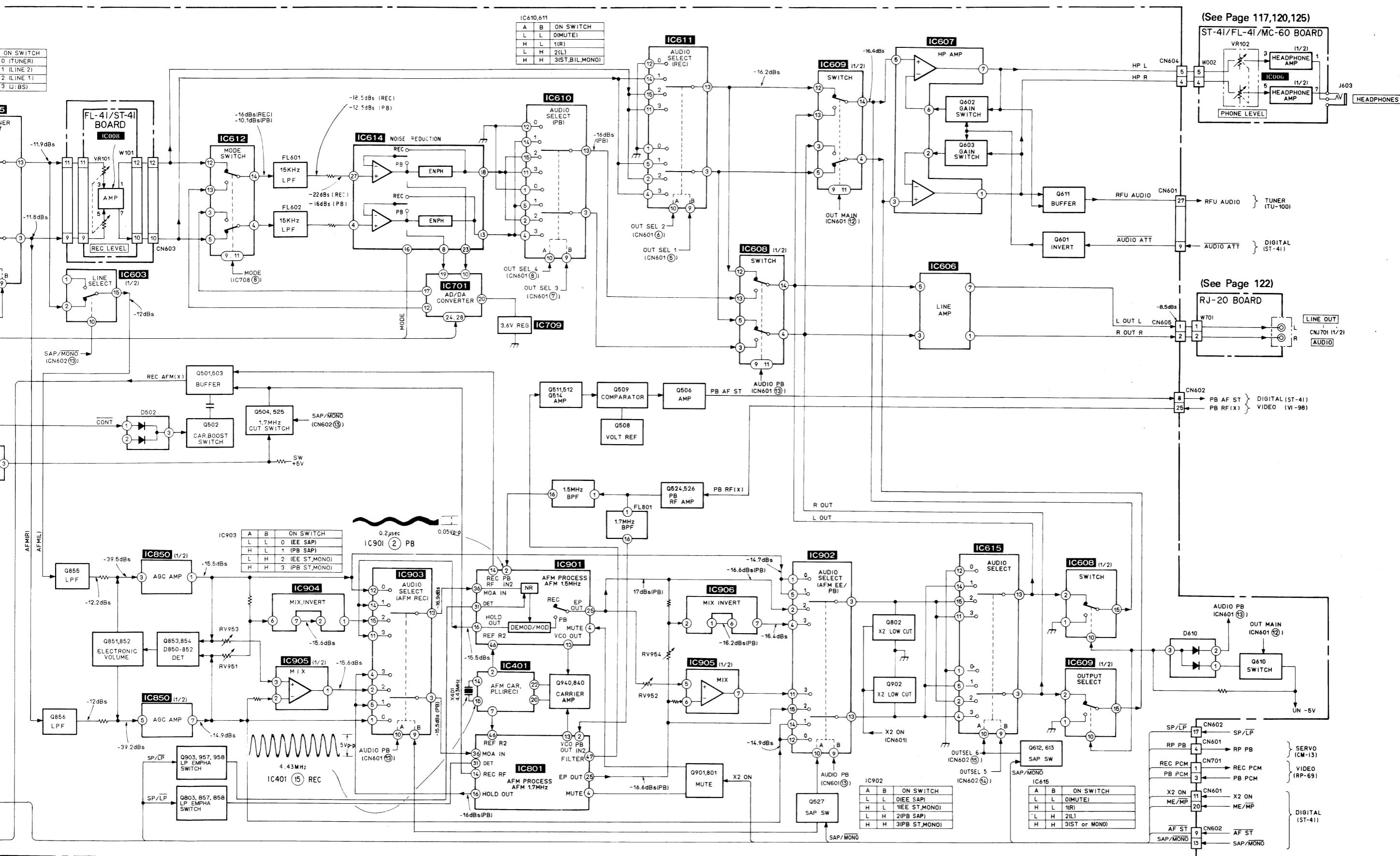
SIGNAL	I/O	Pin No.	INPUT/OUTPUT LEVEL
AD0	I	⑩ Pin	
			<input type="triangle-down"/> OV 1 1.6 2.3 2.9 3.6 4.3
			AD0 EJECT STOP PB REC AINS REMOCON 1 REMOCON 2
			AD1 FF REW PAUSE PLAYER RECORDER AUTO M/S
			AD2 CH + CH - T. REC QUICK TIMER EDIT SERVICE COLOR SYSTEM
			AD3 INPUT SELECT ST/B1 SP/LP SYNC EDIT COUNTER RESET AUDIO M1 AUDIO M2
AD2	I	② Pin	
			AD4 TIMER CHECK TV/VTR STILL + AIR/CATV TUNING + AUTO STEREO
			AD5 PRESET STILL - TUNING - CLEAR × 120
			<input type="triangle-down"/> PCM MIX STD
			AUDIO M1 × ○ ×
AD3	I	③ Pin	
			AUDIO M2 × × ○
			<input type="triangle-down"/> VTR 1 VTR 2 VTR 3
			REMOCON 1 ○ × ×
			REMOCON 2 × ○ ×
E CS	O	㉙ Pin	"H" pulse when changing channel over.
E CLK	O	㉚ Pin	Pulse string with Pin ㉙ in "H".
E DATA	I/O	㉛ Pin	Pulse string with Pin ㉙ in "H".
E BUSY	I	㉜ Pin	"L" pulse only when data is written.
VTR/TV	O	㉝ Pin	"L" when antenna select knob is selected to TV.
IN SEL 1	O	㉞ Pin	"H" when rear LINE input is selected.
IN SEL 2	O	㉟ Pin	"H" when front LINE input is selected.
POWER CONT	O	㉟ Pin	"H" when power is ON.
POWER FAIL	I	㉜ Pin	"L" when UN5V is 4.0 – 4.3 V or less.
TT CS	I	㉜ Pin	"L" pulse of 1V period.
TU V DET	I	㉜ Pin	"L" when tuner video is received.
TA MUTE	O	㉜ Pin	"H" pulse when changing channel over.
STEREO	I	㉜ Pin	"L" when tuner receives stereo signal.
BILINGUAL	I	㉜ Pin	"L" when tuner receives or transmits bilingual broadcasting signal.
LATCH	O	㉜ Pin	"H" pulse when changing channel over.
CLOCK	O	㉜ Pin	Pulse string with Pin ㉜ in "H".
DATA	O	㉜ Pin	Pulse string with Pin ㉜ in "H".
VPS CS	O	㉜ Pin	1 V cycle "L" PULSE

#### **4-14. TUNER BLOCK DIAGRAM**



## 4-15. AUDIO BLOCK DIAGRAM

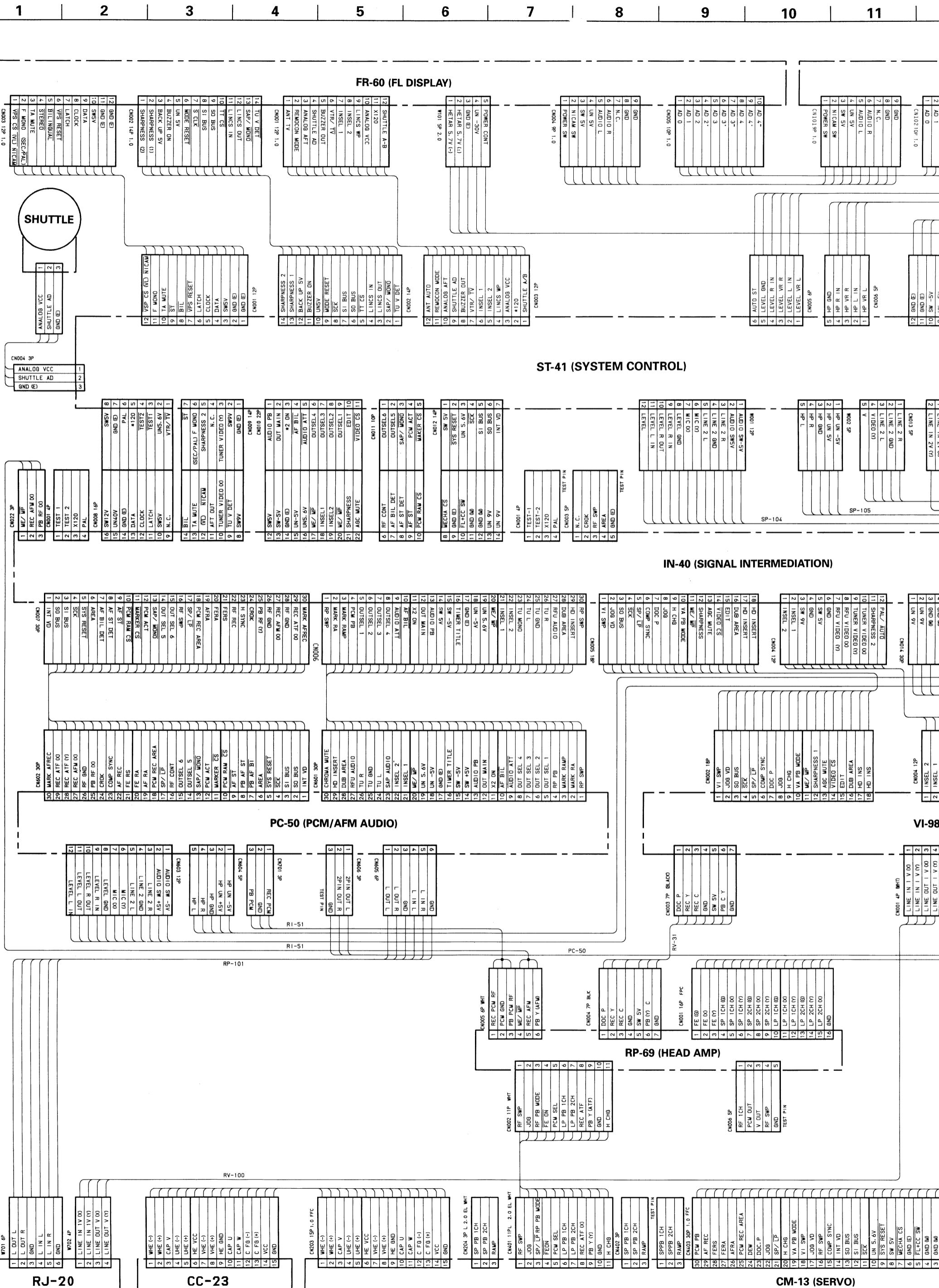


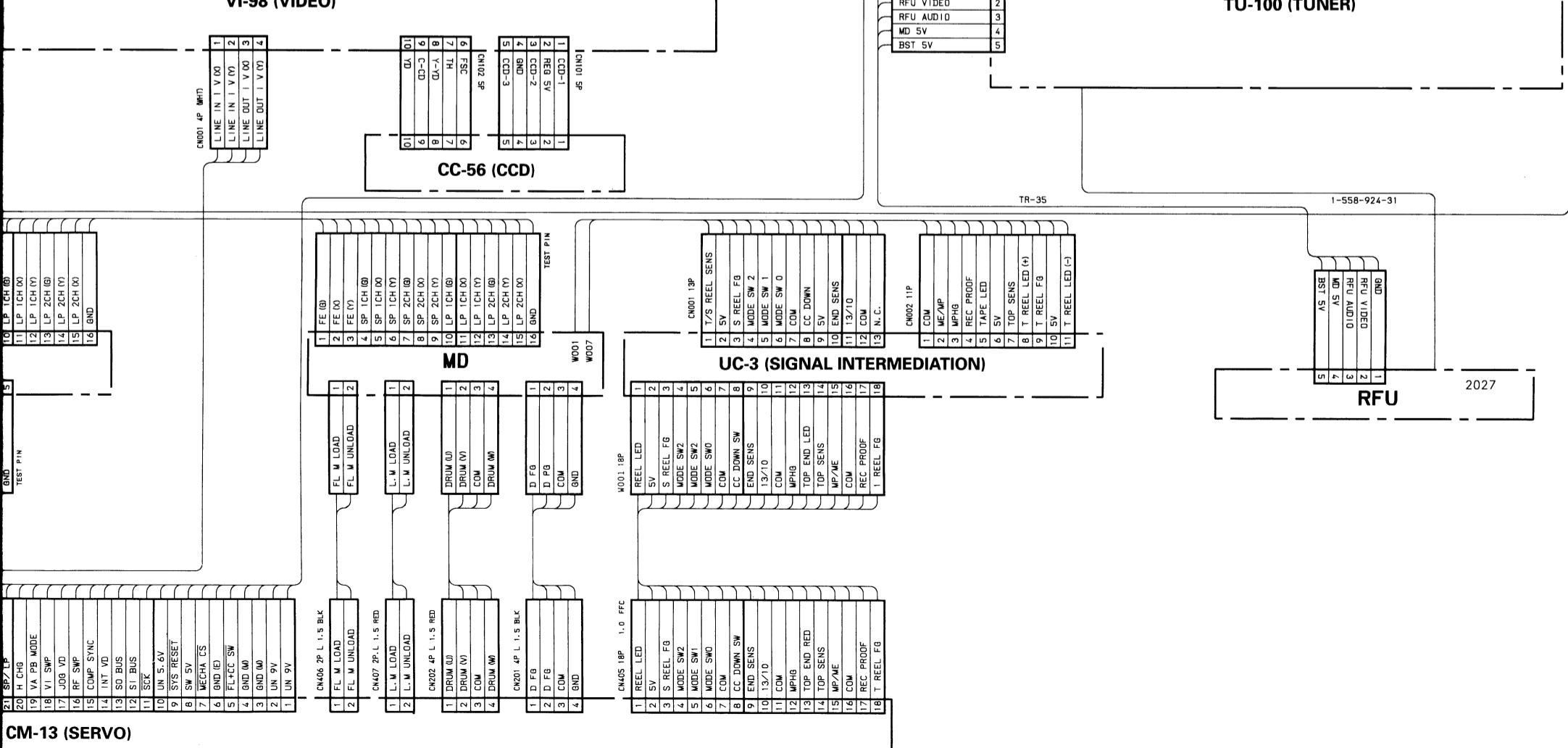
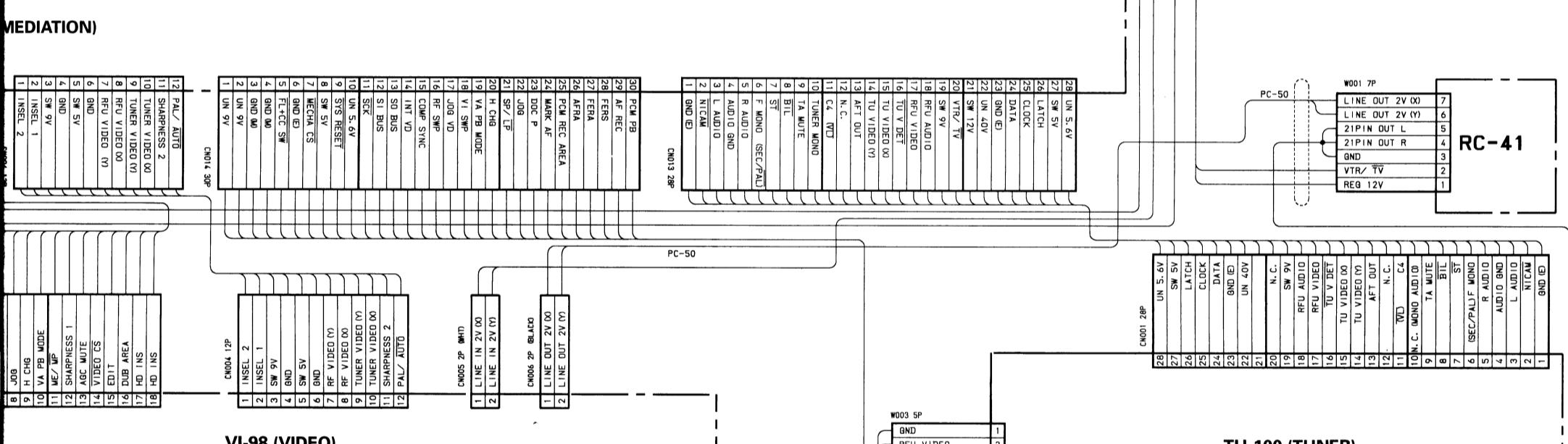
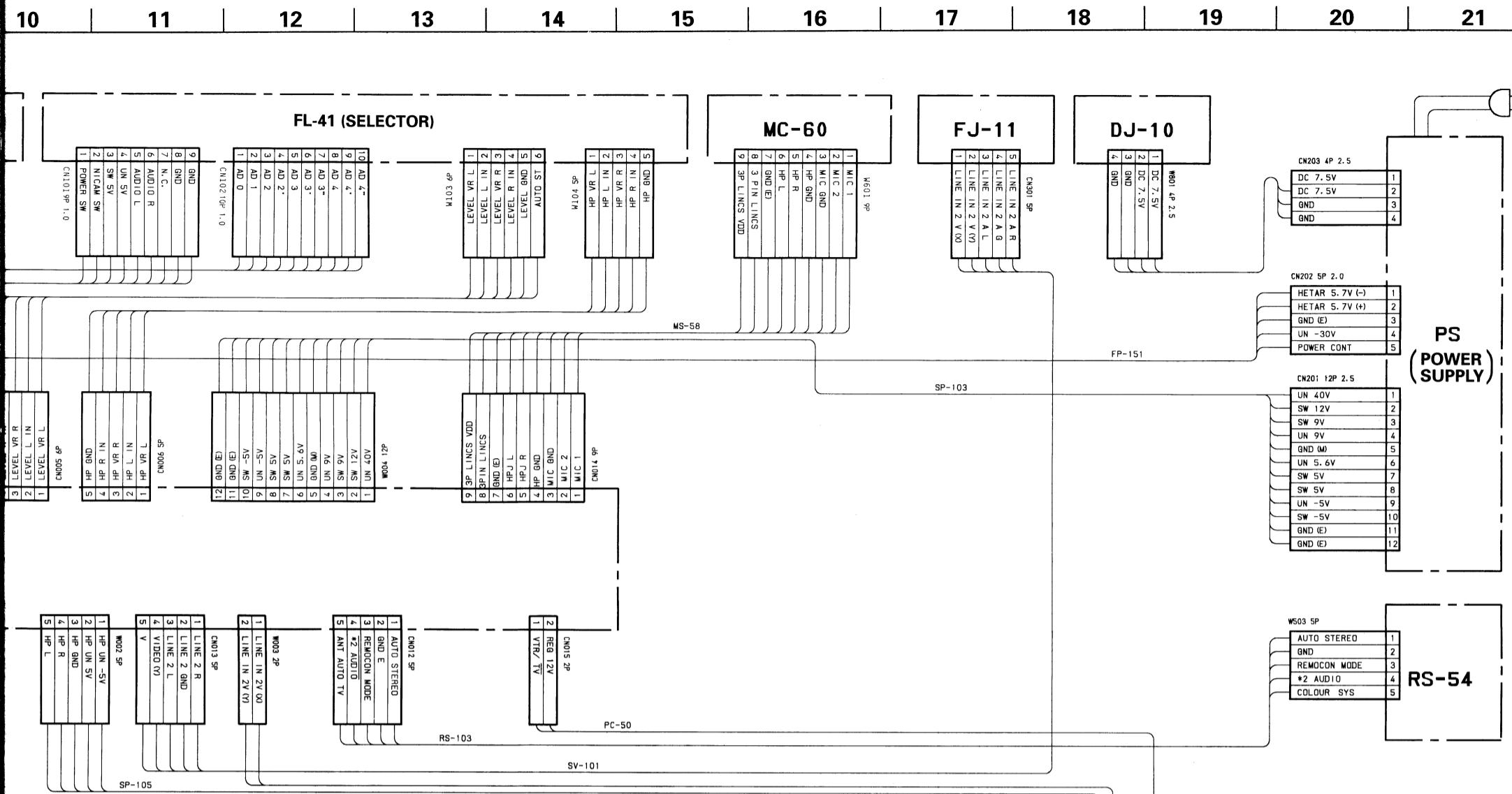


## **SECTION 5**

## **PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS**

## **5-1. FRAME SCHEMATIC DIAGRAM**





## 5-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

**THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.**  
(In addition to this, the necessary note is printed in each block.)

## For printed wiring boards:

- : indicated a lead wire mounted on the component side.
- : indicated a lead wire mounted on the conductor side.
- : Parts mounted on the conductor side.
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.\*
- Circled numbers refer to waveforms.\*
- (B) or (F), etc. of capacitors indicate the temperature characteristics.

## Caution:

Pattern face side: Parts on the pattern face side seen from (Conductor Side) the pattern face are indicated.

Parts face side: Parts on the parts face side seen from the (Component side) parts face are indicated.

## For schematic diagram:

- Caution when replacing chip parts.  
New parts must be attached after removal of chip.  
Be careful not to heat the minute side of tantalum capacitor, because it is damaged by the heat.
- All resistors are in ohms, 1/4W (Chip resistors: 1/10W) unless otherwise noted.  
kΩ: 1000Ω, MΩ: 1000kΩ.
- All capacitors are in μF unless otherwise noted. pF: μμF 50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.
- △ : internal component.
- : adjustment for repair.\*
- : B + Line.\*
- : B - Line.\*
- : IN/OUT direction of (+, -) B LINE.\*
- Circled numbers refer to waveforms.\*
- Voltages are DC between measurement points and ground unless otherwise noted.\*
- Readings are taken with a color-bar signal input.\*
- Readings are taken with a digital multimeter (DC10MΩ).\*
- Voltage variations may be noted due to normal production tolerances.\*
- Circled numbers refer to waveforms.
- \*: indicated by the color red.

When indicating parts by reference number, please include the board name.

**Note:**  
The components identified by mark △ or dotted line with mark △ are critical for safety.  
Replace only with part number specified.

## RP-69 (HEAD AMP) PRINTED WIRING BOARD

—Ref. No. RP-69 Board: 1000 series—

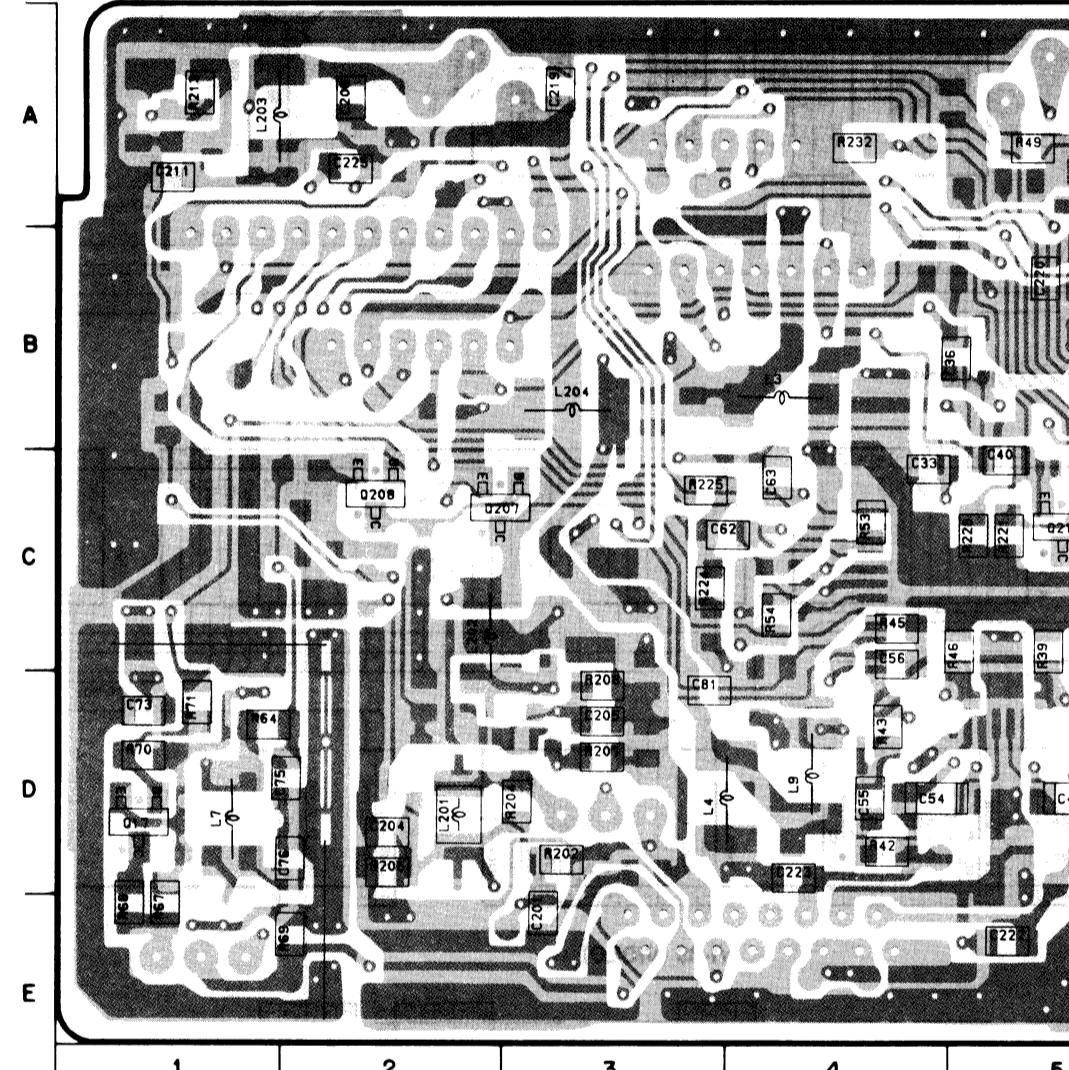
Caution:	
Pattern face side:	Parts on the pattern face side seen from (Conductor Side)
Parts face side:	Parts on the parts face side seen from the (Component side)

IC

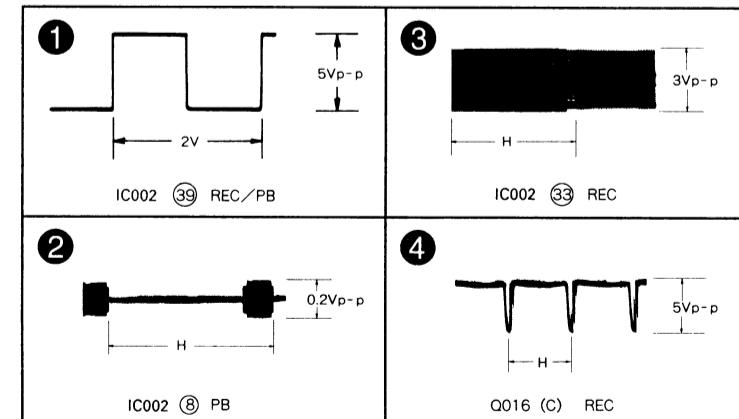
IC002 8-752-032-35 IC CXA1202Q-Z  
IC003 8-759-710-09 IC NJM223AM

## TRANSISTOR

Q006	8-729-901-01	TRANSISTOR DTC144EK
Q007	8-729-901-01	TRANSISTOR DTC144EK
Q011	8-729-901-06	TRANSISTOR DTA144EK
Q015	8-729-216-22	TRANSISTOR 2SA1162
Q016	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q017	8-729-216-22	TRANSISTOR 2SA1162
Q0201	8-729-202-38	TRANSISTOR 2SC3326N
Q0202	8-729-353-53	TRANSISTOR 2SC535-C
Q0203	8-729-100-56	TRANSISTOR 2SC1623
Q0204	8-729-100-56	TRANSISTOR 2SC1623
Q0205	8-729-100-66	TRANSISTOR 2SC1623
Q0206	8-729-100-66	TRANSISTOR 2SC1623
Q0207	8-729-901-05	TRANSISTOR DTA124EK
Q0208	8-729-901-00	TRANSISTOR DTC124EK
Q0209	8-729-901-04	TRANSISTOR DTA114EK
Q210	8-729-100-66	TRANSISTOR 2SC1623
Q211	8-729-100-66	TRANSISTOR 2SC1623
Q212	8-729-100-66	TRANSISTOR 2SC1623

RP-69 BOARD  
(CONDUCTOR SIDE)

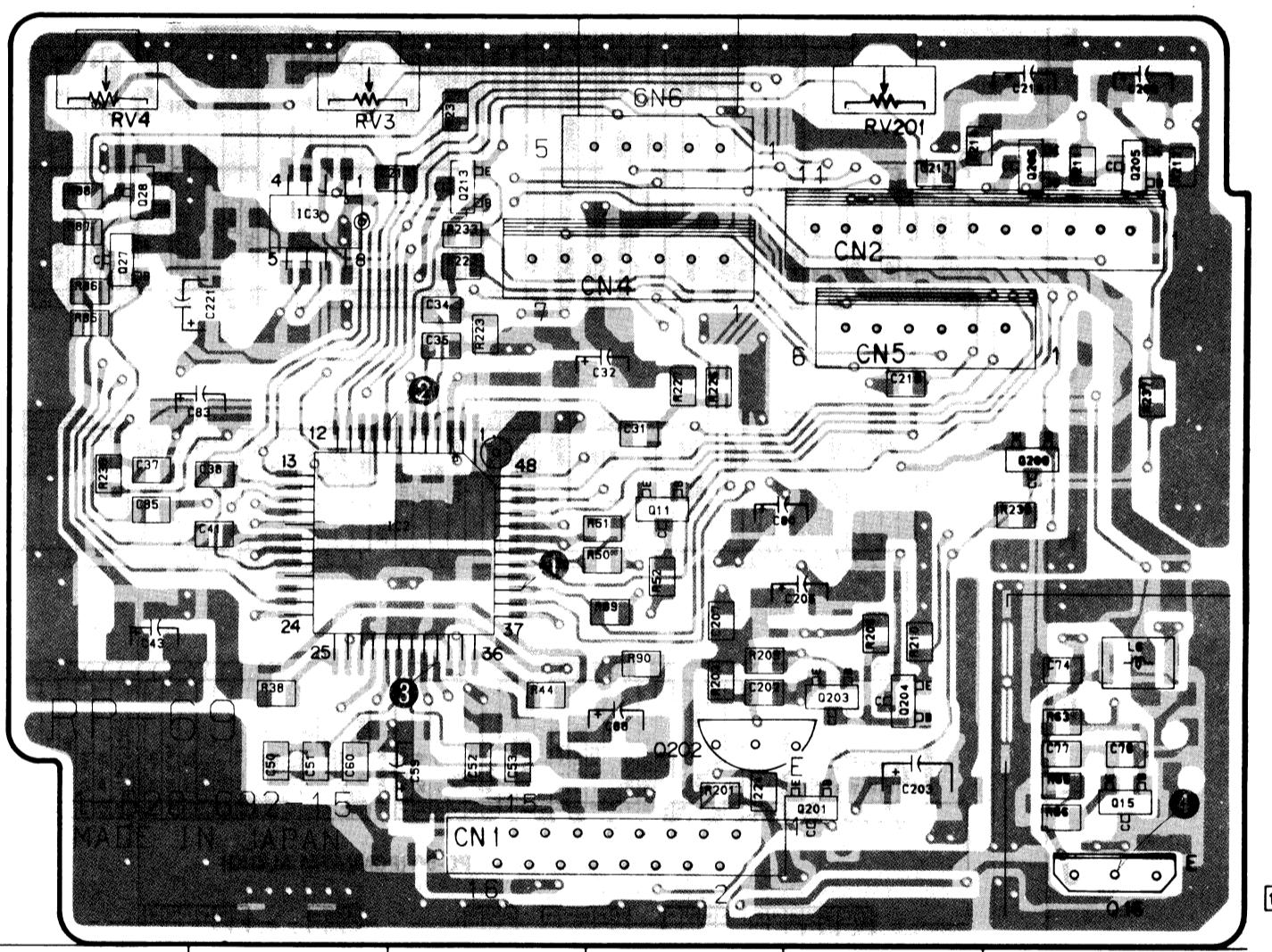
## RP-69 BOARD



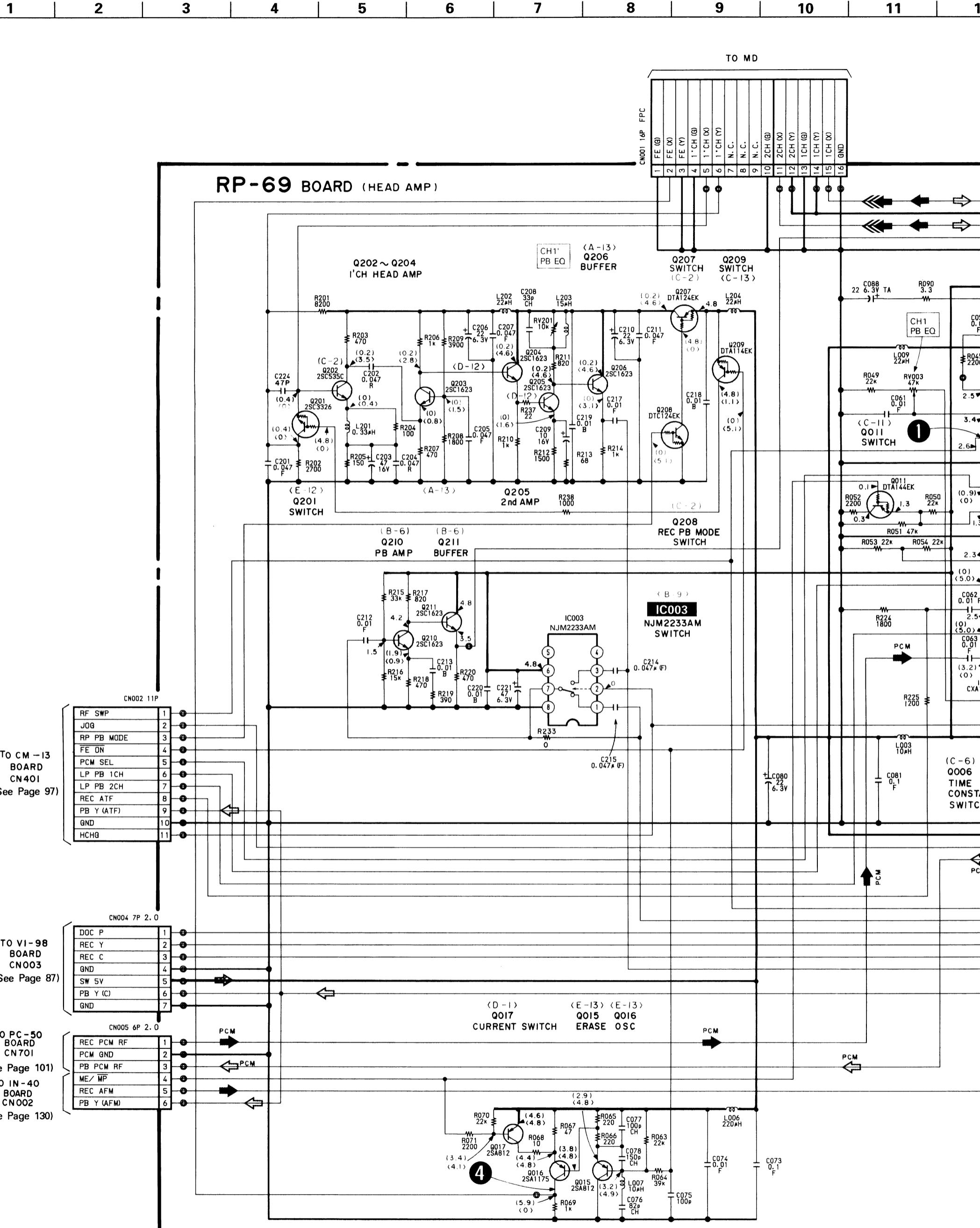
Parts on the pattern face side seen from the pattern face are indicated.

Parts on the parts face side seen from the parts face are indicated.

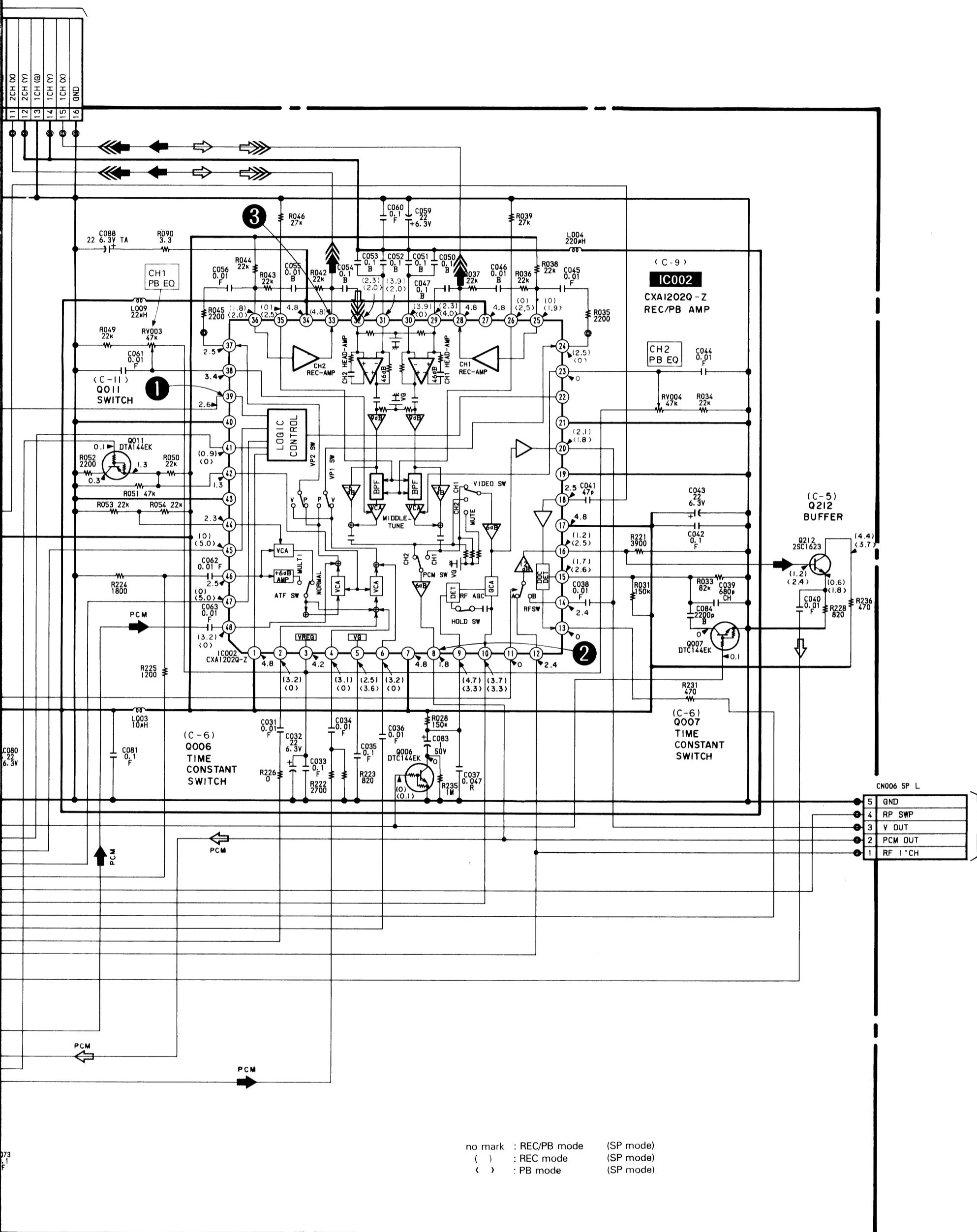
**RP-69 BOARD**  
**(COMPONENT SIDE)**



**RP-69 (HEAD AMP) SCHEMATIC DIAGRAM**  
—Ref. No. RP-69 Board: 1000 series—



10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22



## • SIGNAL PATH

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC	➡	➡	➡	➡
PB	➡	➡	➡	➡

## VI-98 (VIDEO), CC-56 (CCD) PRINTED WIRING BOARDS

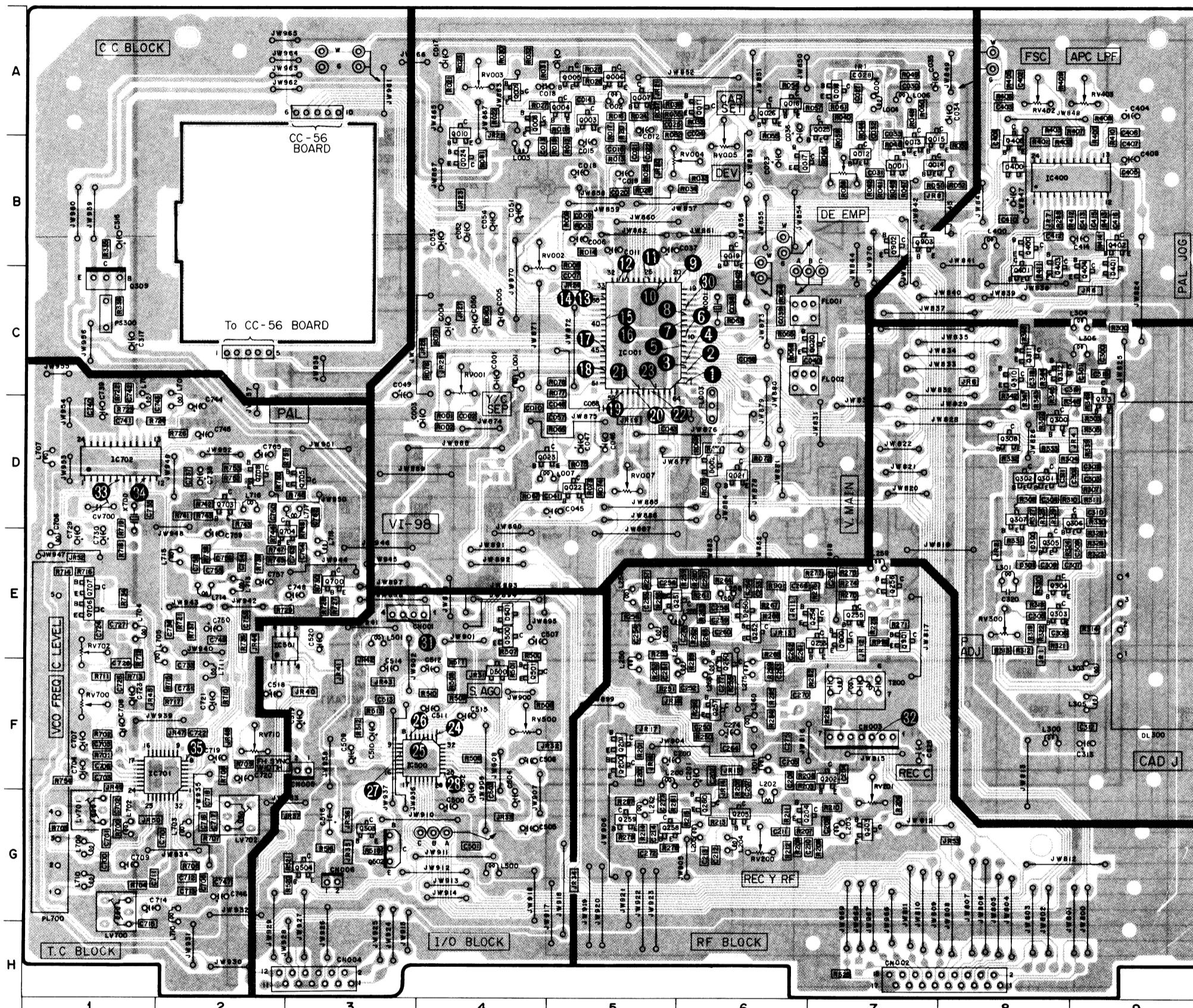
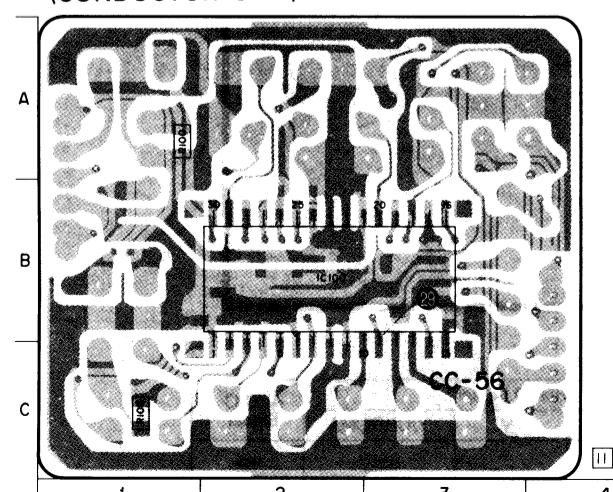
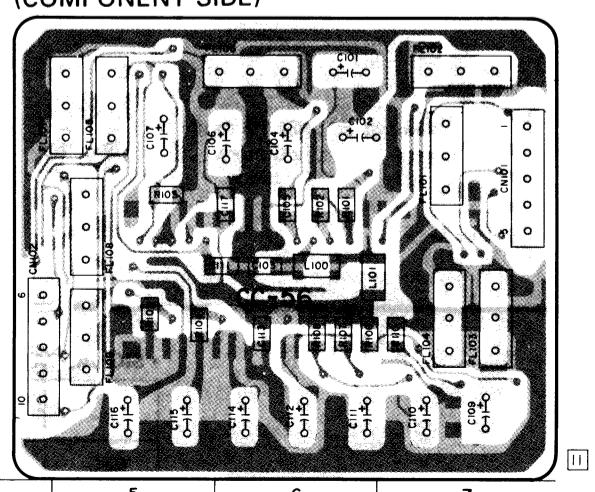
—Ref. No. VI-98, CC-56 Boards: 2000 series—

## Caution:

Pattern face side: Parts on the pattern face side seen from (Conductor Side) the pattern face are indicated.

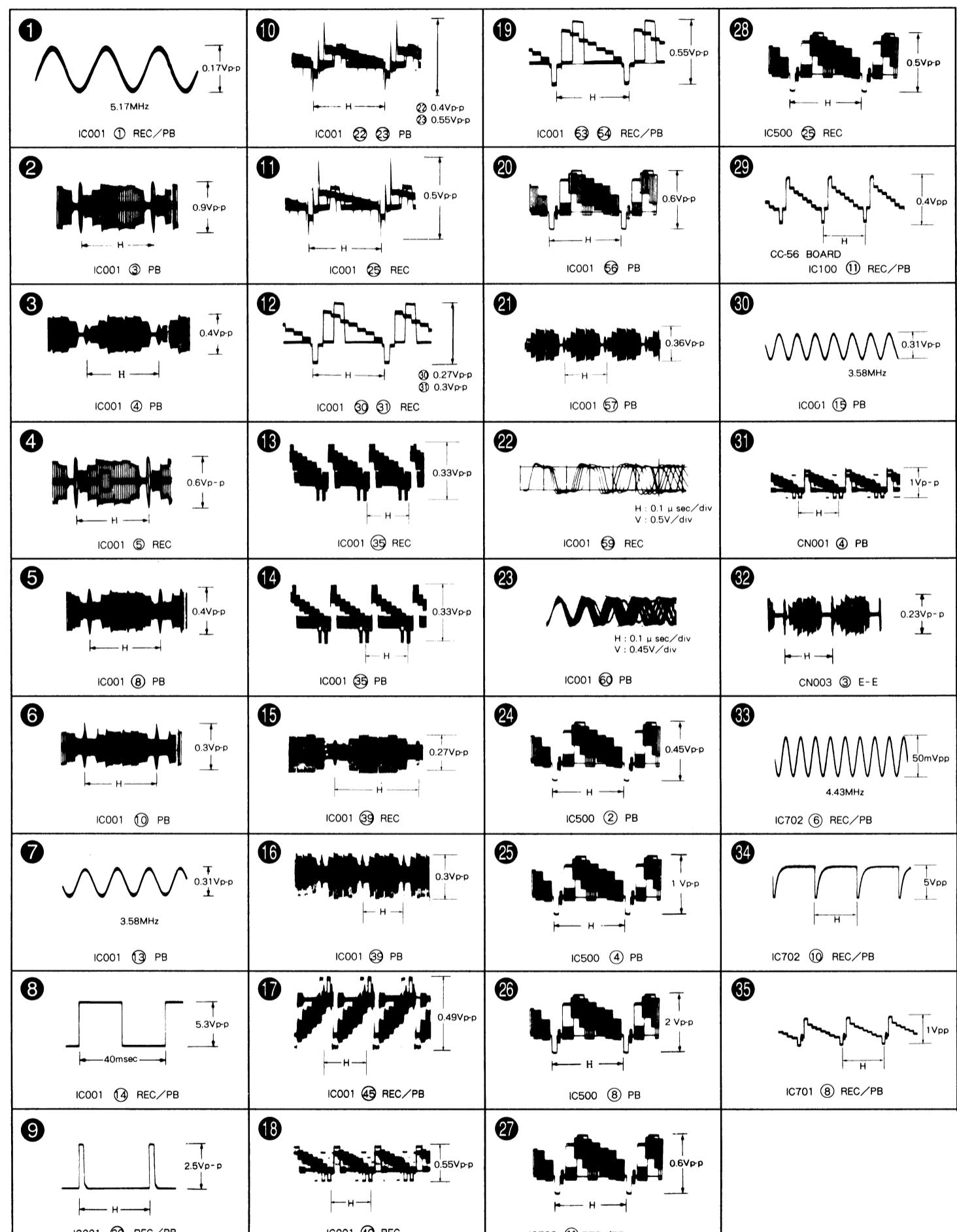
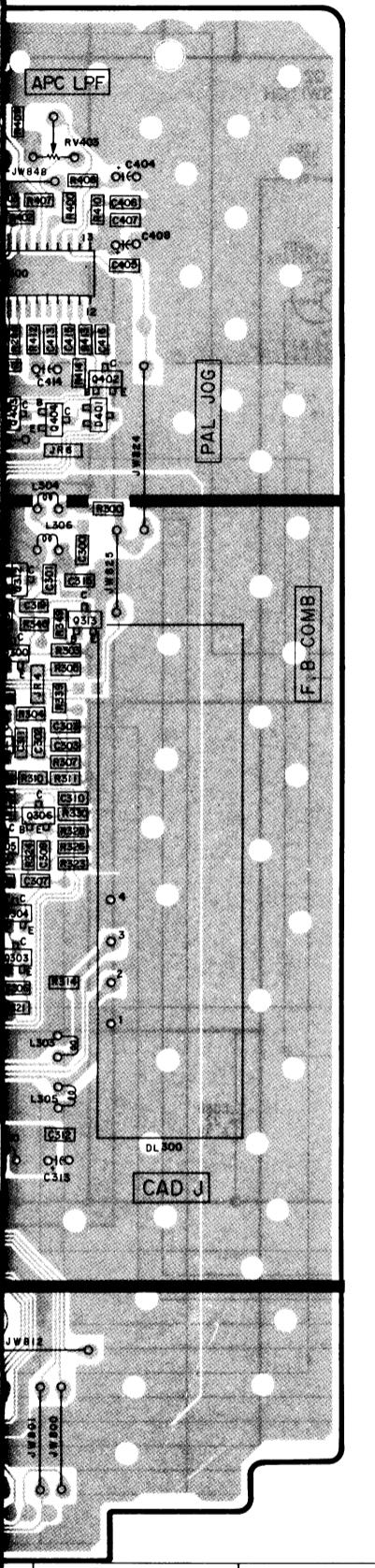
Parts face side: Parts on the parts face side seen from the (Component side) parts face are indicated.

	DIODE			IC			TRANSISTOR		
D001	8-719-800-76	DIODE	1SS226	IC001	8-752-034-40	IC CXA1200BQ	Q003	8-729-100-66	TRANSISTOR 2SC1623
D002	8-719-400-18	DIODE	MA152WK	IC400	8-752-031-49	IC CXA1203M	Q004	8-729-100-66	TRANSISTOR 2SC1623
D250	8-719-800-76	DIODE	1SS226	IC500	8-752-033-40	IC CXA12010	Q005	8-729-100-66	TRANSISTOR 2SC1623
D300	8-719-118-21	DIODE	1SS283	IC501	8-759-710-07	IC NJM2234M	Q006	8-729-100-66	TRANSISTOR 2SC1623
D301	8-719-118-21	DIODE	1SS283	IC701	8-752-035-00	IC CXA1227Q	Q007	8-729-901-01	TRANSISTOR DTC144EK
D400	8-719-400-18	DIODE	MA152WK	IC702	8-752-034-04	IC CXA1219M	Q008	8-729-901-06	TRANSISTOR DTA144E
D401	8-719-400-18	DIODE	MA152WK				Q009	8-729-100-66	TRANSISTOR 2SC1623
D500	8-719-400-18	DIODE	MA152WK				Q010	8-729-100-66	TRANSISTOR 2SC1623
D501	8-719-400-18	DIODE	MA152WK				Q011	8-729-216-22	TRANSISTOR 2SA1162
							Q012	8-729-100-66	TRANSISTOR 2SC1623
							Q013	8-729-100-66	TRANSISTOR 2SC1623
							Q014	8-729-216-22	TRANSISTOR 2SA1162
							Q015	8-729-100-66	TRANSISTOR 2SC1623
							Q016	8-729-216-22	TRANSISTOR 2SA1162
							Q017	8-729-216-22	TRANSISTOR 2SA1162

VI-98 BOARD  
(CONDUCTOR SIDE)CC-56 BOARD  
(CONDUCTOR SIDE)CC-56 BOARD  
(COMPONENT SIDE)IC  
IC100 8-752-324-87 IC CXL1502M

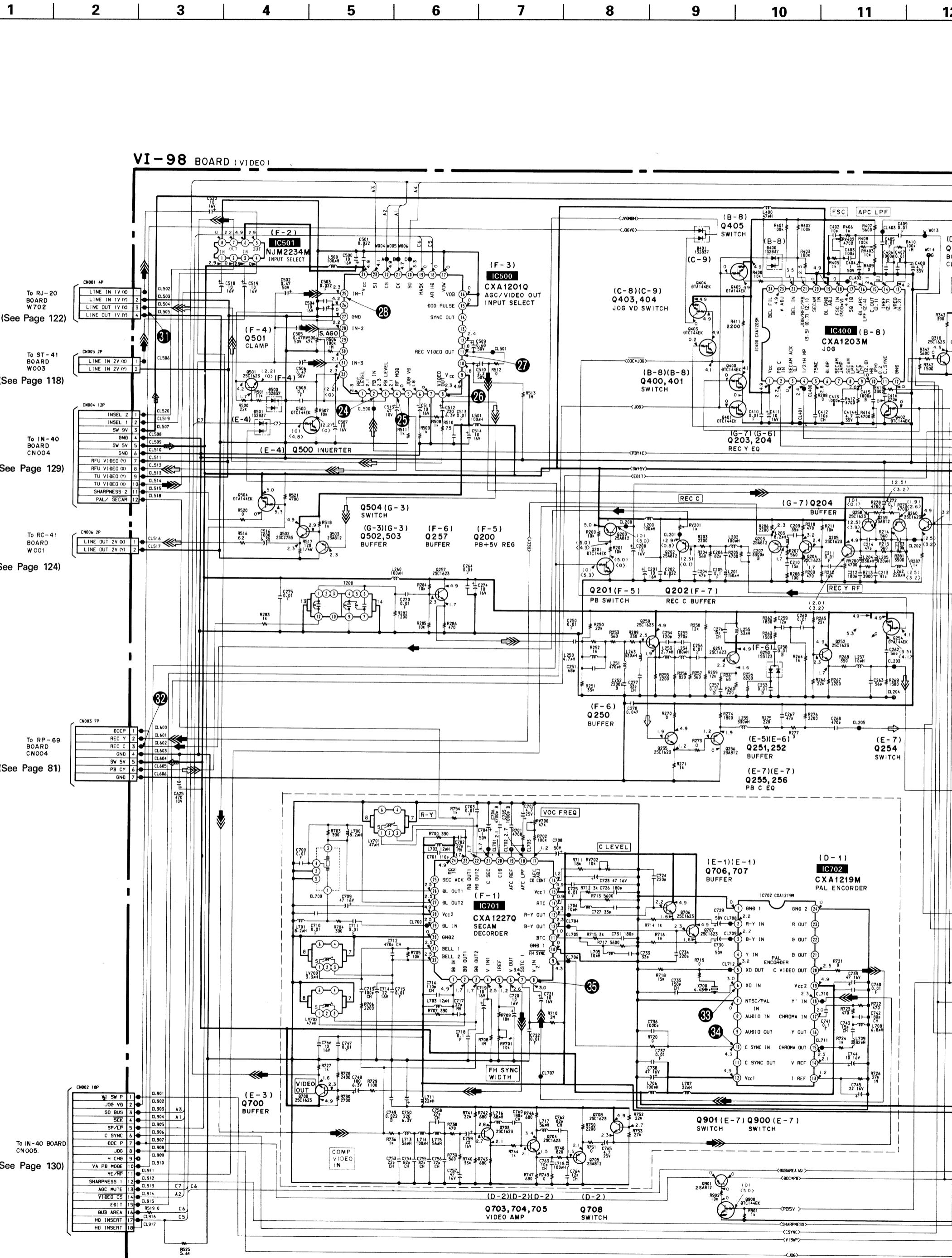
<u>ANSISTOR</u>	Q250	8-729-100-66	TRANSISTOR	2SC1623	Q305	8-729-100-66	TRANSISTOR	2SC1623	Q500	8-729-901-01	TRANSISTOR	DTC144EK
	Q251	8-729-100-66	TRANSISTOR	2SC1623	Q306	8-729-100-66	TRANSISTOR	2SC1623	Q501	8-729-100-66	TRANSISTOR	2SC1623
TRANSISTOR	2SC1623		TRANSISTOR	2SC1623	Q307	8-729-100-66	TRANSISTOR	2SC1623	Q502	8-729-119-78	TRANSISTOR	2SC2785-HFE
TRANSISTOR	2SC1623		TRANSISTOR	DTA144EK	Q308	8-729-901-06	TRANSISTOR	DTA144EK	Q503	8-729-216-22	TRANSISTOR	2SA1162
TRANSISTOR	2SC1623		TRANSISTOR	2SC1623	Q309	8-729-140-96	TRANSISTOR	2SD774-34	Q504	8-729-901-06	TRANSISTOR	DTA144EK
TRANSISTOR	2SC1623											
TRANSISTOR	DTC144EK		TRANSISTOR	2SA1162	Q310	8-729-100-66	TRANSISTOR	2SC1623	Q700	8-729-100-66	TRANSISTOR	2SC1623
	Q256	8-729-216-22	TRANSISTOR	2SA1162	Q311	8-729-100-66	TRANSISTOR	2SC1623	Q703	8-729-100-66	TRANSISTOR	2SC1623
TRANSISTOR	DTA144EK		TRANSISTOR	2SC1623	Q312	8-729-100-66	TRANSISTOR	2SC1623	Q704	8-729-100-66	TRANSISTOR	2SC1623
TRANSISTOR	2SC1623		TRANSISTOR	2SC1623	Q313	8-729-100-66	TRANSISTOR	2SC1623	Q705	8-729-216-22	TRANSISTOR	2SA1162
TRANSISTOR	2SC1623		TRANSISTOR	2SA1162	Q400	8-729-901-01	TRANSISTOR	DTC144EK	Q706	8-729-100-66	TRANSISTOR	2SC1623
TRANSISTOR	2SA1162											
TRANSISTOR	2SC1623		TRANSISTOR	2SC1623	Q401	8-729-901-01	TRANSISTOR	DTC144EK	Q707	8-729-100-66	TRANSISTOR	2SC1623
	Q300	8-729-100-66	TRANSISTOR	2SC1623	Q402	8-729-901-01	TRANSISTOR	DTC144EK	Q708	8-729-100-66	TRANSISTOR	2SC1623
TRANSISTOR	2SC1623		TRANSISTOR	2SC1623	Q403	8-729-901-01	TRANSISTOR	DTC144EK	Q900	8-729-901-01	TRANSISTOR	DTC144EK
TRANSISTOR	2SA1162		TRANSISTOR	2SC1623	Q404	8-729-901-06	TRANSISTOR	DTA144EK	Q901	8-729-216-22	TRANSISTOR	2SA1162
TRANSISTOR	2SC1623		TRANSISTOR	2SC1623	Q405	8-729-901-06	TRANSISTOR	DTA144EK	Q902	8-729-901-01	TRANSISTOR	DTC144EK
TRANSISTOR	2SA1162											
TRANSISTOR	2SA1162								Q903	8-729-901-06	TRANSISTOR	DTA144EK

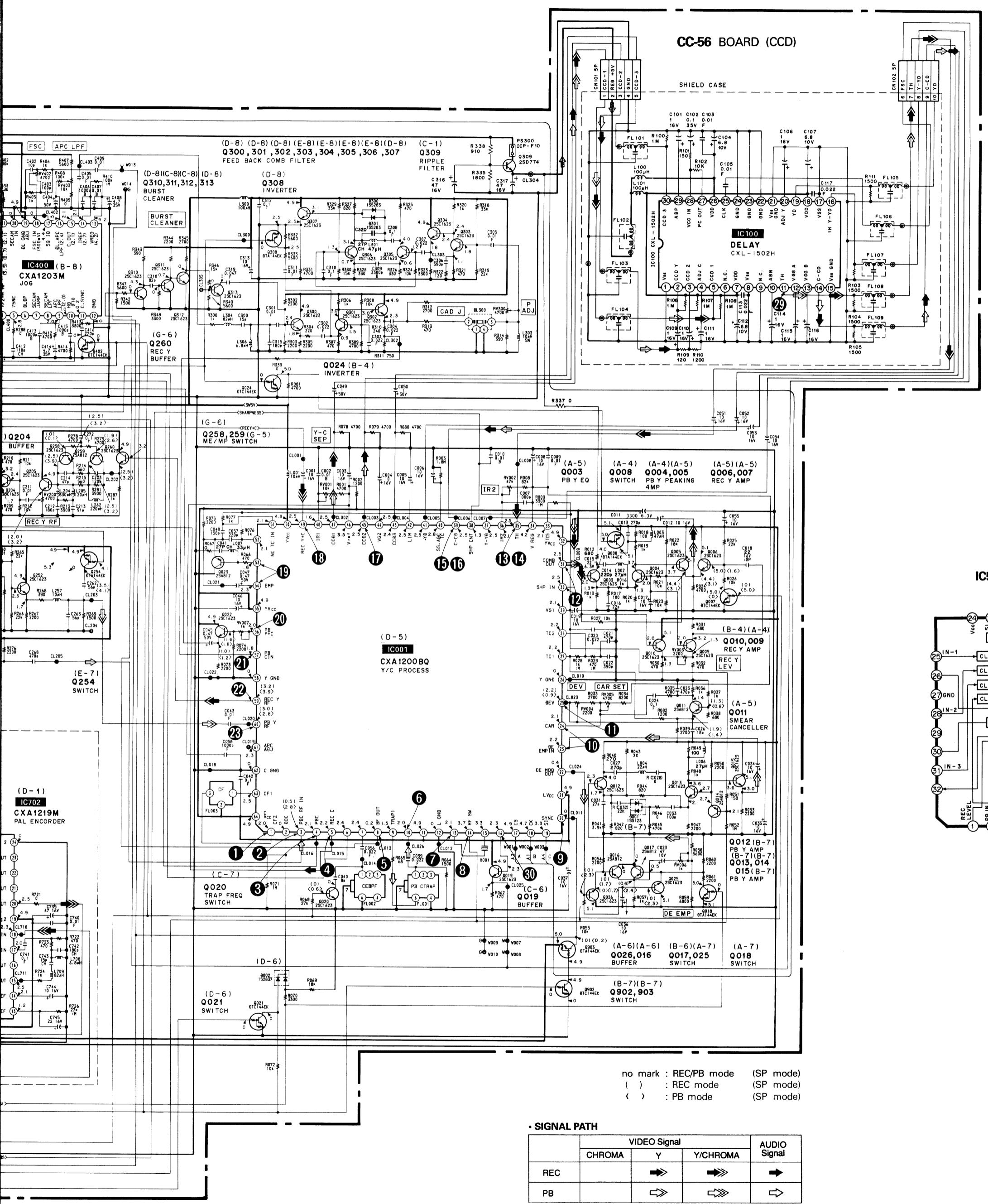
VI-98 BOARD (VIDEO)



VI-98 (VIDEO), CC-56 (CCD) SCHEMATIC DIAGRAMS

—Ref. No. VI-98, CC-56 Boards: 2000 series—





18

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**22**

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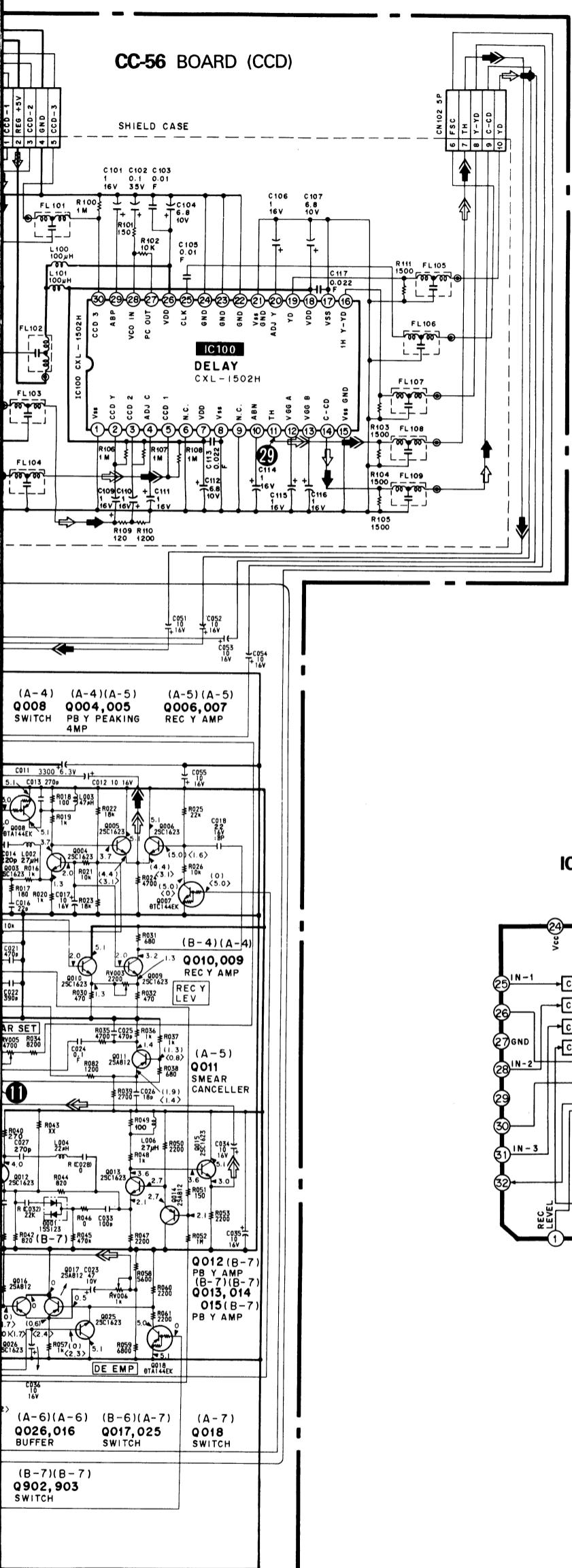
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26

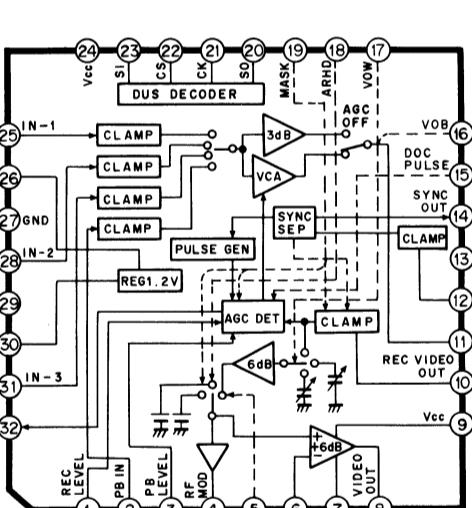
27

**28**

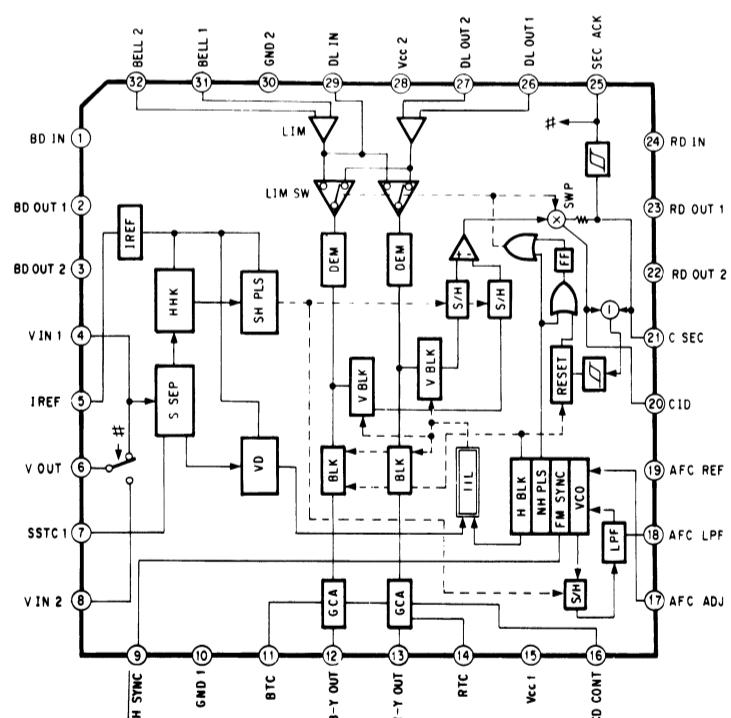
**IC001 BLOCK DIAGRAM**



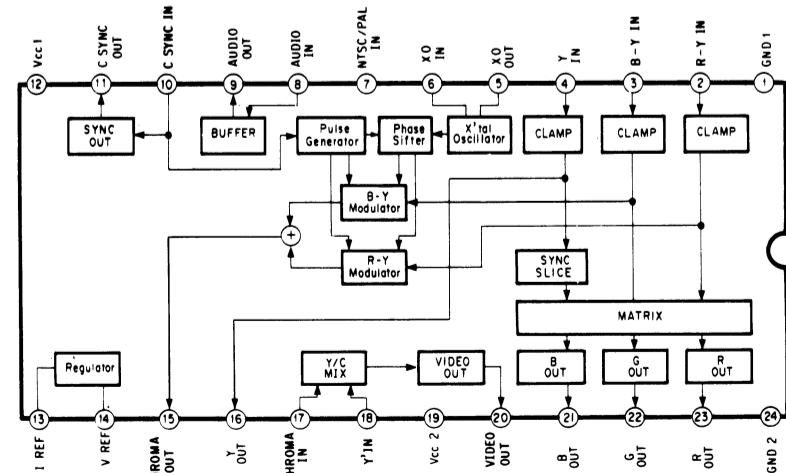
IC500 BLOCK DIAGRAM



IC701 BLOCK DIAGRAM



IC702 BLOCK DIAGRAM



VIDEO Signal			AUDIO Signal
ROMA	Y	Y/CHROMA	
	➡	➡➡	➡
	➡	➡➡	➡

**CM-13 (SERVO) PRINTED WIRING BOARD**

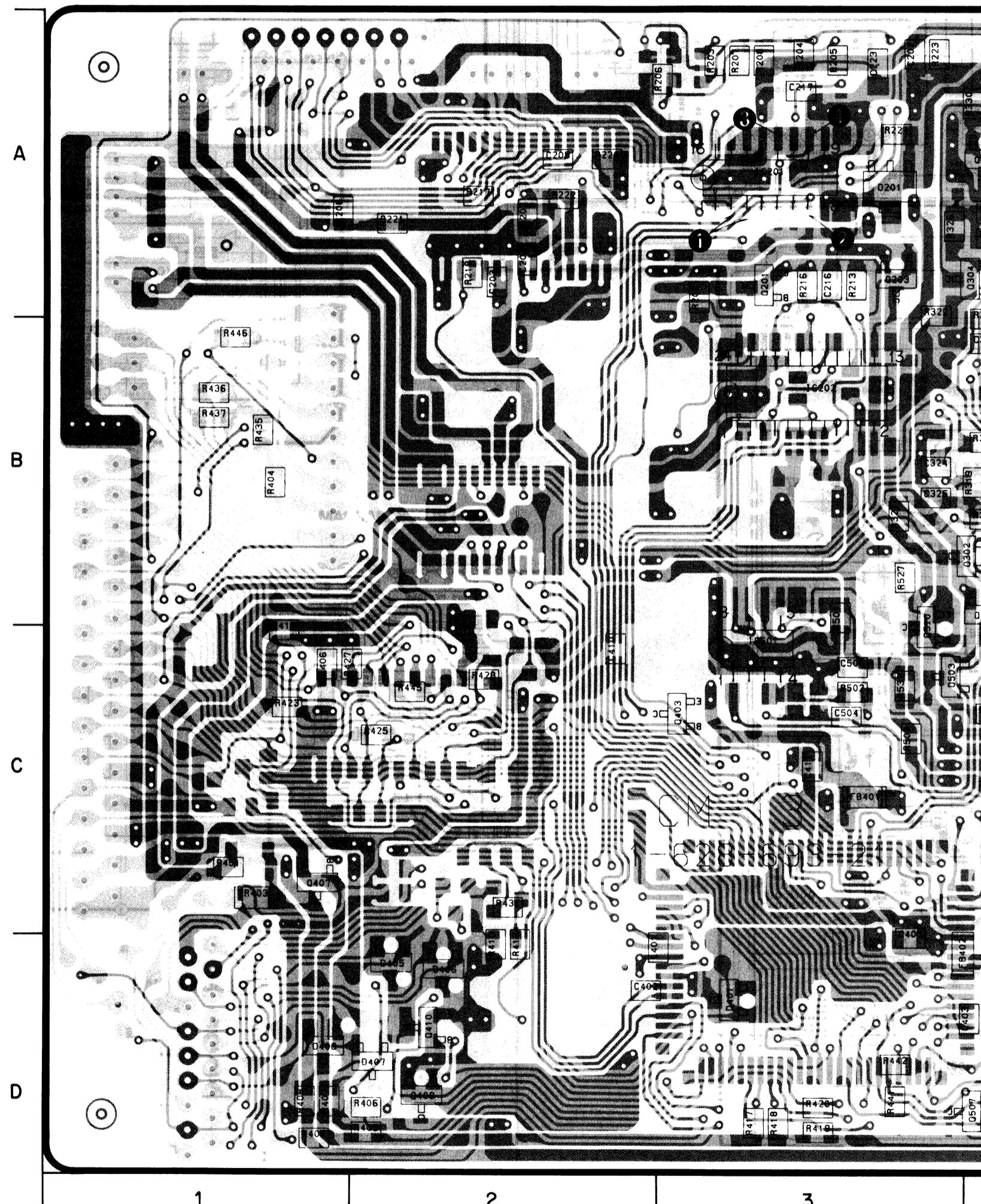
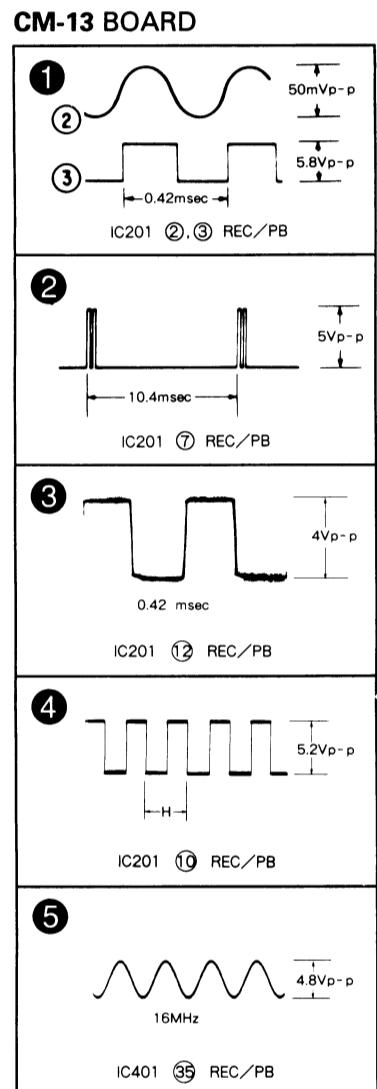
—Ref. No. CM-13 Board: 3000 series—

**Caution:**

Pattern face side:  
(Conductor Side) Parts on the pattern face side seen from the pattern face are indicated.

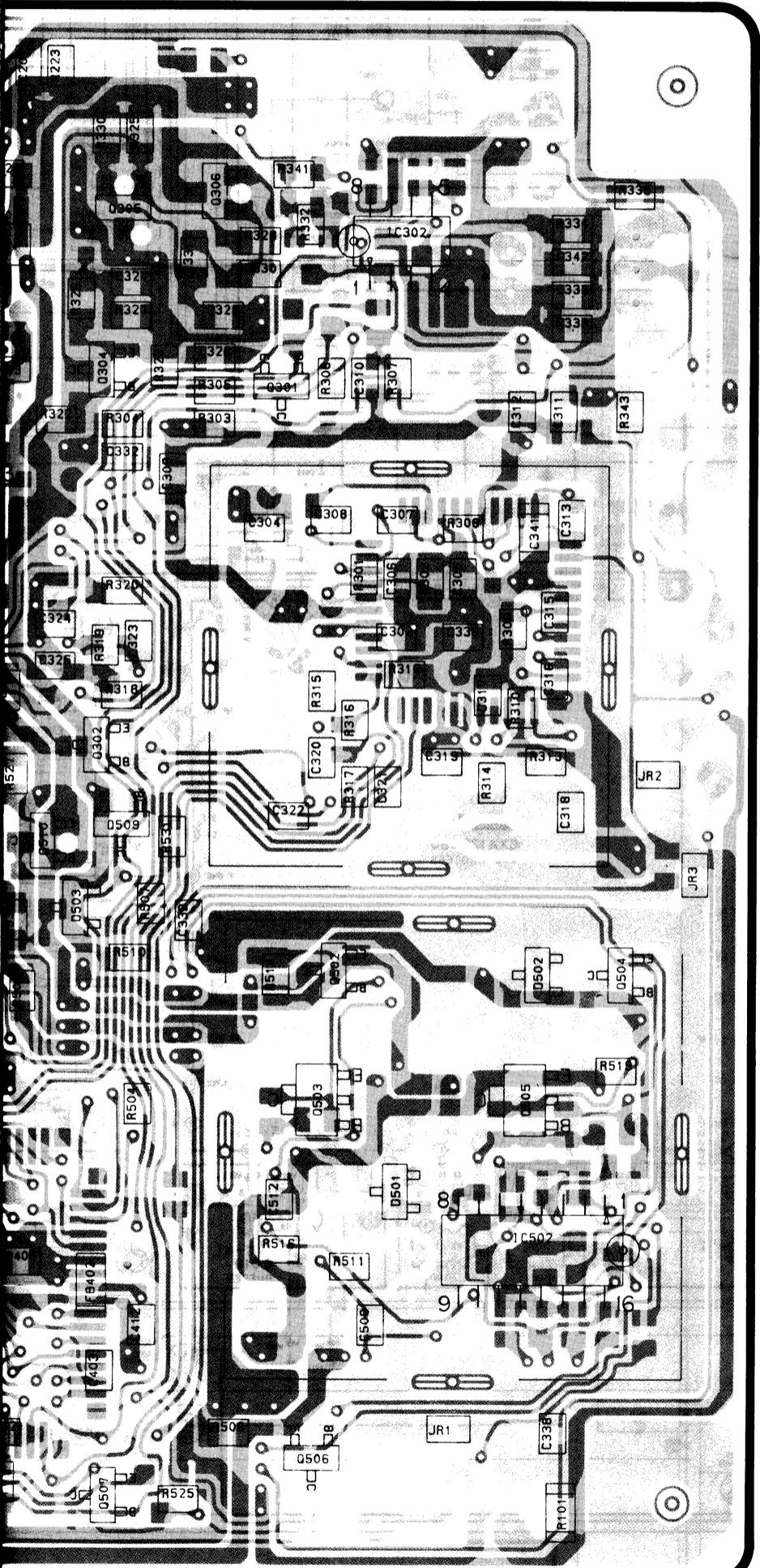
**Parts face side:** Parts on the parts face side seen from the (Component side) parts face are indicated.

**CM-13 BOARD**  
(CONDUCTOR SIDE)

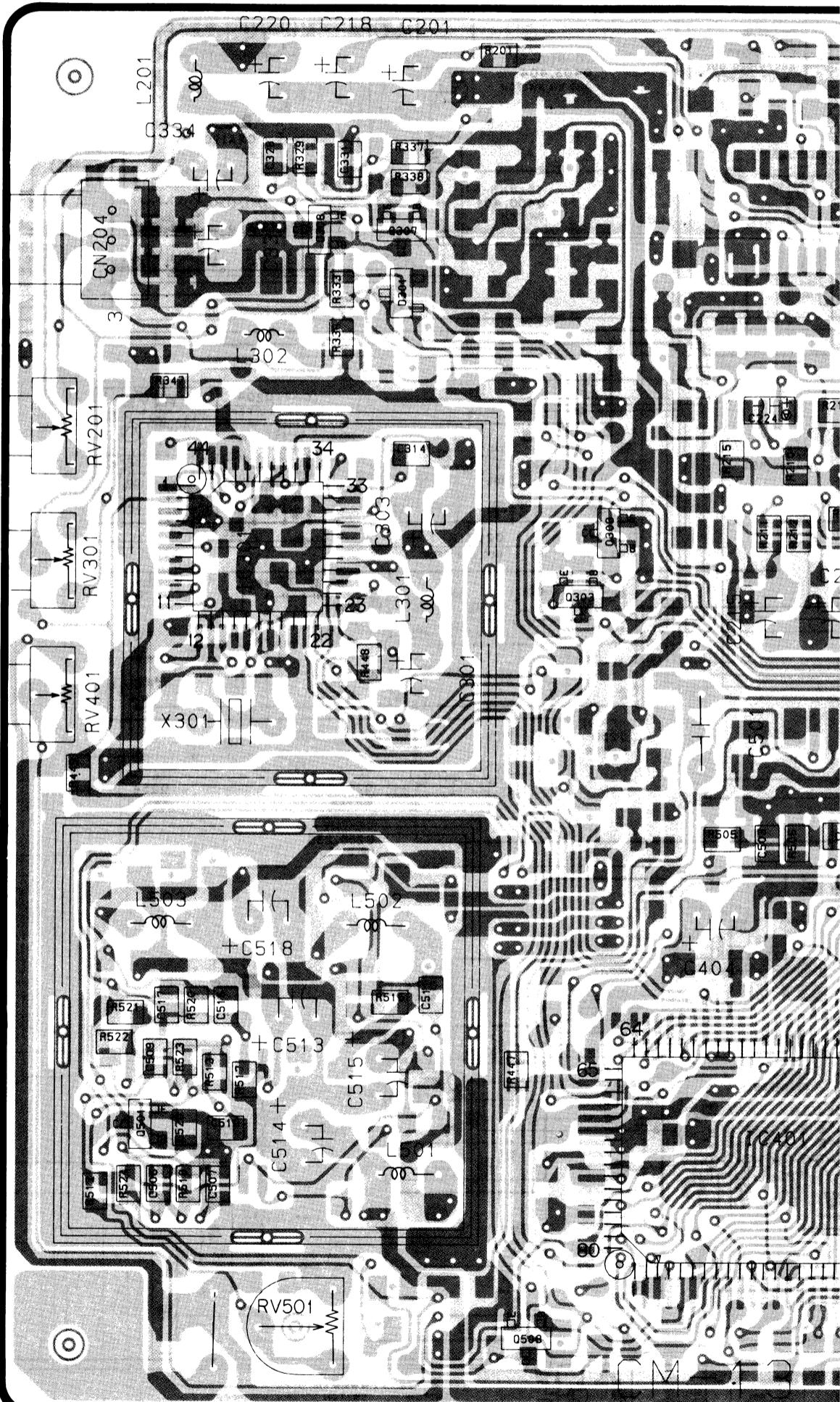


OR 2SA1162	Q308	8-729-901-01	TRANSISTOR DTC144EK	Q505	8-729-805-25	TRANSISTOR 2SB1121
OR FMS1	Q309	8-729-901-01	TRANSISTOR DTC144EK	Q506	8-729-901-01	TRANSISTOR DTC144EK
OR DTC144EK	Q403	8-729-901-06	TRANSISTOR DTA144EK	Q507	8-729-901-06	TRANSISTOR DTA144EK
OR 2SA1162	Q404	8-729-901-06	TRANSISTOR DTA144EK	Q508	8-729-901-01	TRANSISTOR DTC144EK
OR 2SC1623	Q407	8-729-920-74	TRANSISTOR 2SC2412K-QR	Q509	8-729-920-74	TRANSISTOR 2SC2412K-QR
OR 2SA1162	Q408	8-729-901-01	TRANSISTOR DTC144EK	Q510	8-729-920-74	TRANSISTOR 2SC2412K-QR
OR 2SC1623	Q501	8-729-901-01	TRANSISTOR DTC144EK			
OR 2SA1162	Q502	8-729-100-66	TRANSISTOR 2SC1623			
OR 2SC1623	Q503	8-729-805-25	TRANSISTOR 2SB1121			
OR 2SC2412K-QR	Q504	8-729-100-66	TRANSISTOR 2SC1623			

CM-13 BOARD  
(COMPONENT SIDE)



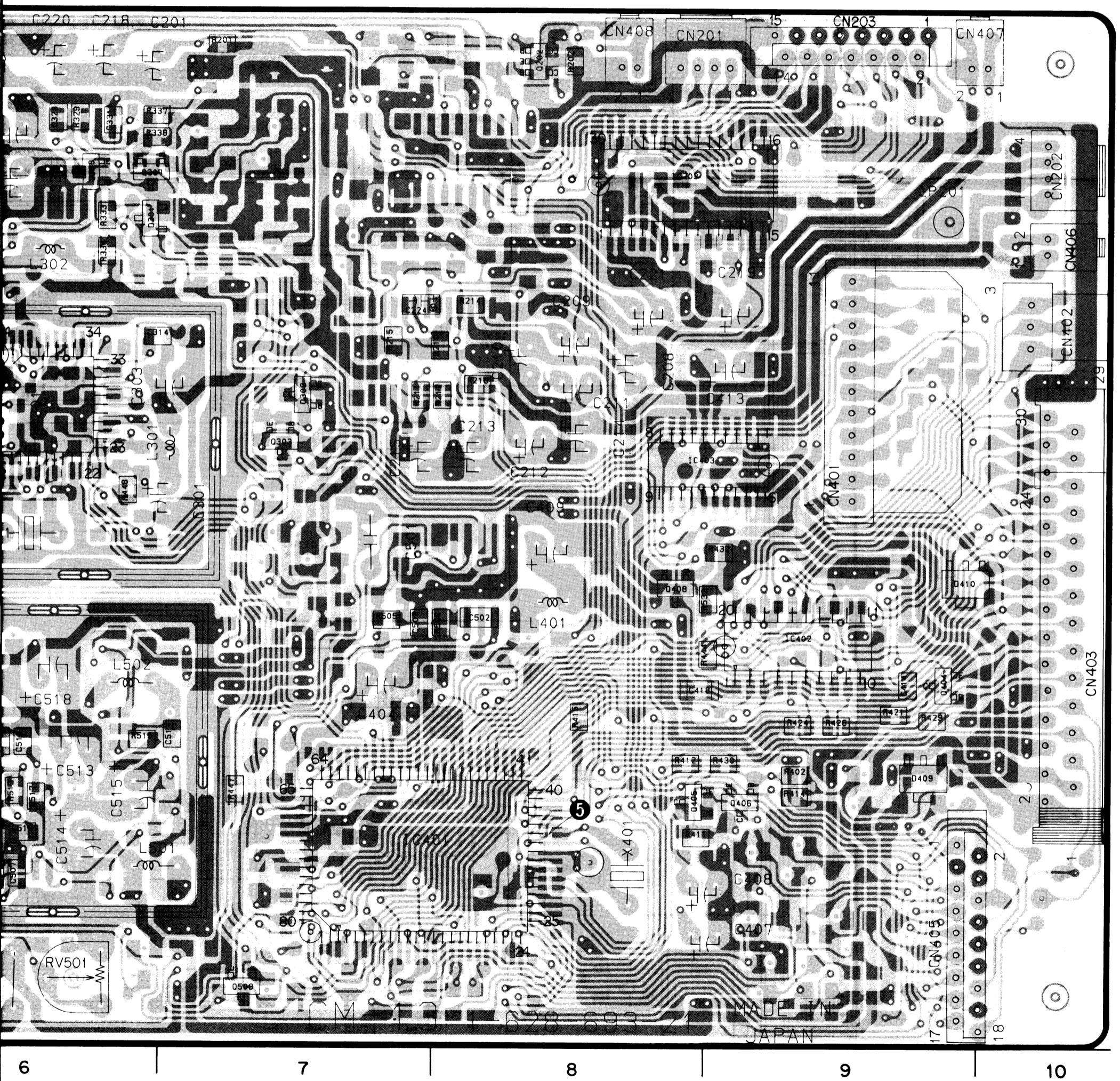
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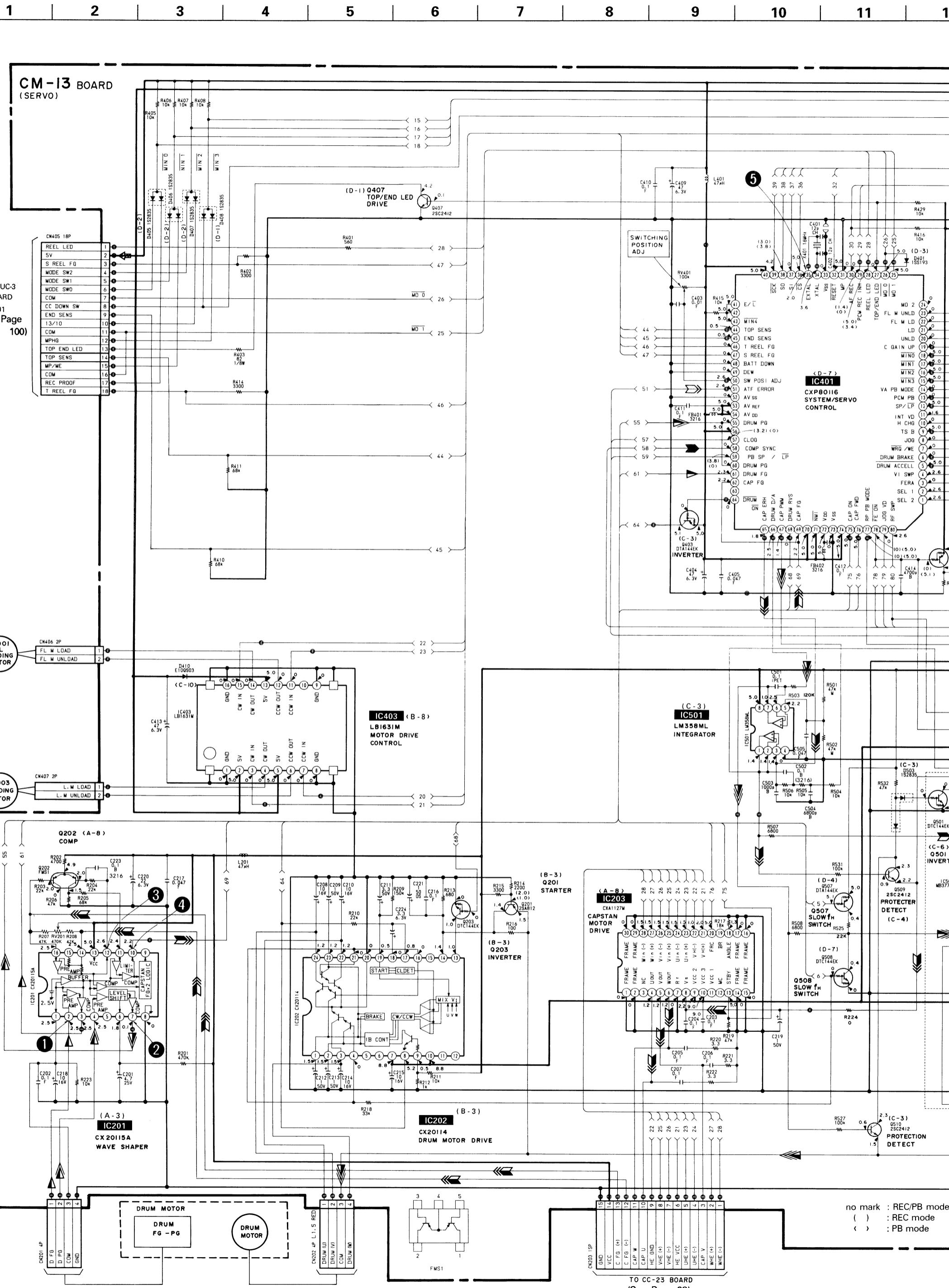
6

7

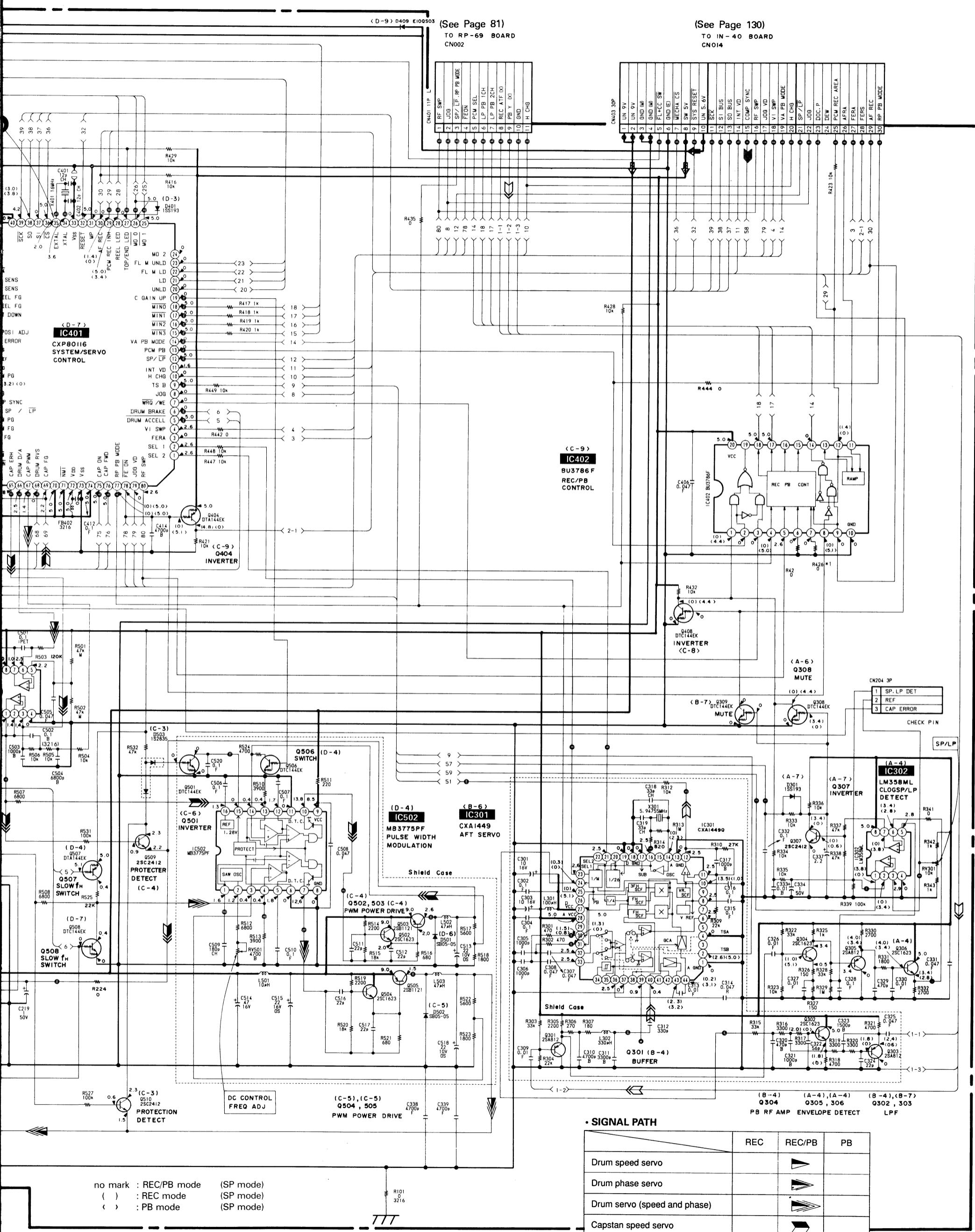
DE)



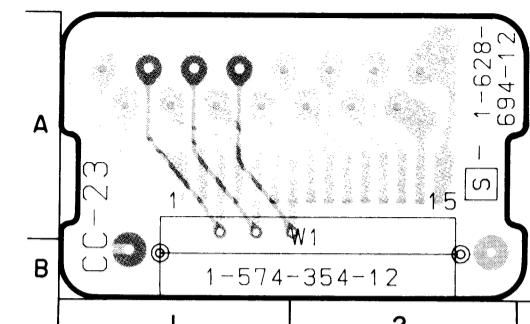
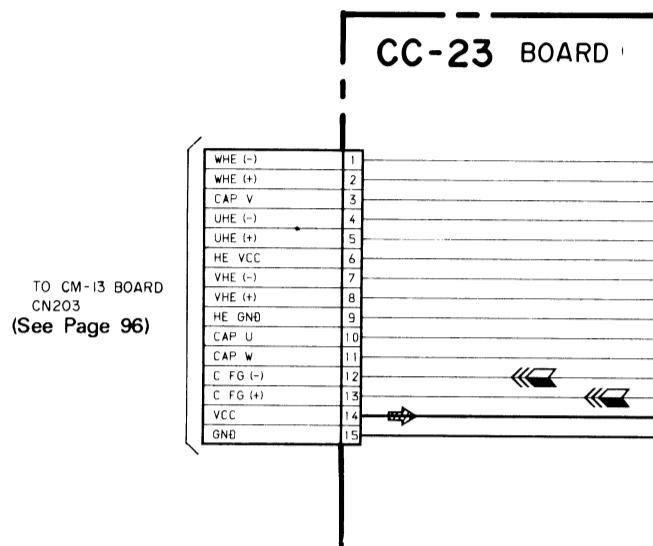
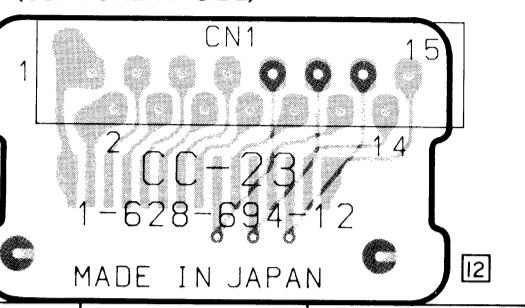
**CM-13 (SERVO) SCHEMATIC DIAGRAM**  
—Ref. No. CM-13 Board: 3000 series—



10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |



SIGNAL PATH	REC	REC/PB	PB
Drum speed servo			
Drum phase servo			
Drum servo (speed and phase)			
Capstan speed servo			
Capstan phase servo			
Capstan servo (speed and phase)			
Ref. signal			

CC-23 (SIGNAL INTERMEDIATION), PC-50 (PCM/AFM AUDIO) PRINTED WIRING BOARDS  
—Ref. No. CC-23 Board: 3000 series, PC-50 Board: 4000 series—UC-3 (SIGNAL INTERMEDIATION), FP-89, FP-90 (SENSOR)  
—Ref. No. UC-3, FP-89, FP-90 Boards: 3000 series—CC-23 BOARD  
(CONDUCTOR SIDE)CC-23 BOARD  
(COMPONENT SIDE)

## • Signal path

	REC	REC/PB	PB
Capstan servo (speed and phase)		»»»	

**Caution:**  
Pattern face side: Parts on the pattern face side seen from (Conductor Side) the pattern face are indicated.  
Parts face side: Parts on the parts face side seen from the (Component side) parts face are indicated.

## DIODE

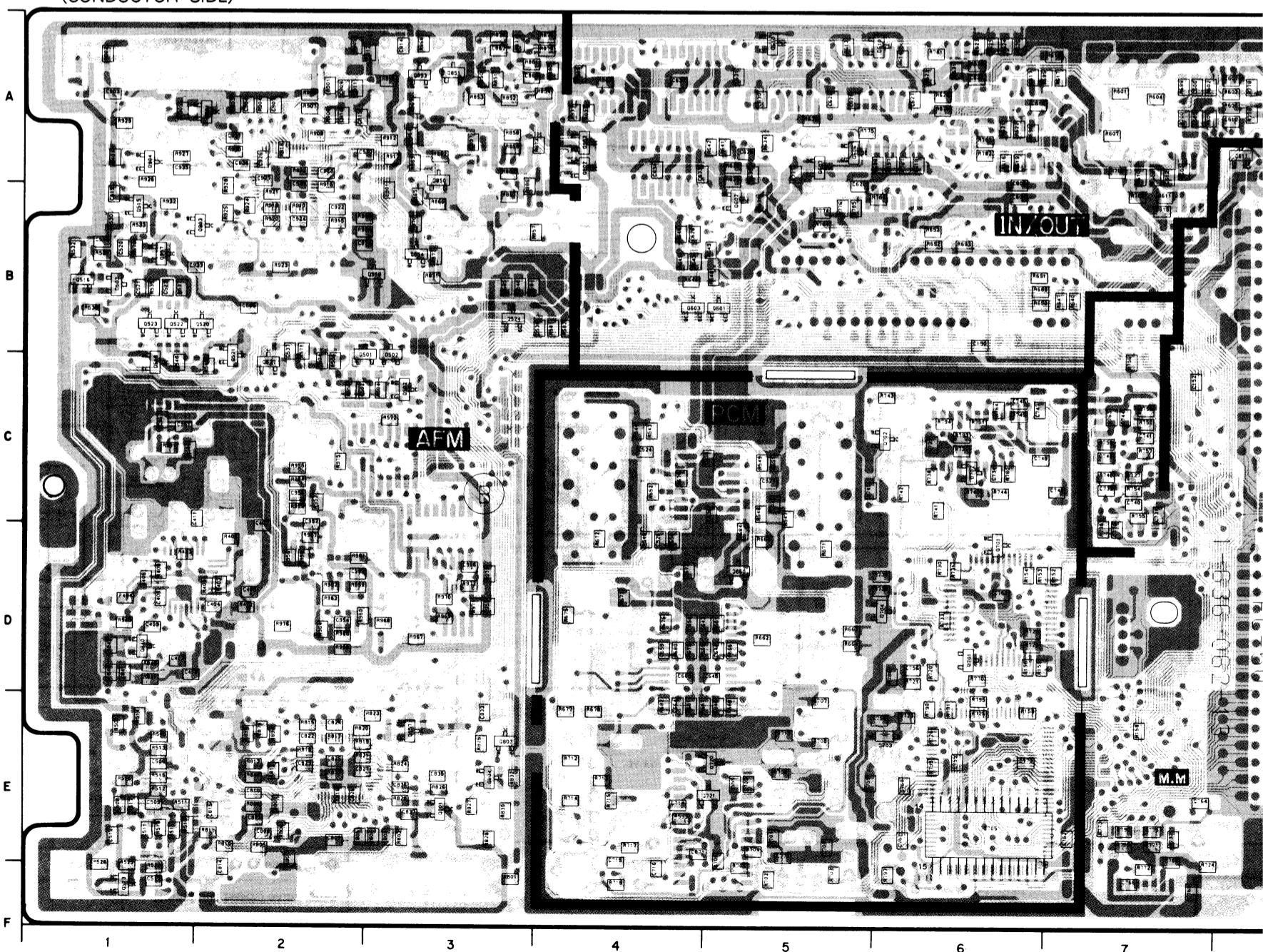
D401	8-719-400-18	DIODE	MA152WK
D501	8-719-104-34	DIODE	1S2836
D502	8-719-400-18	DIODE	MA152WK
D503	8-719-800-76	DIODE	1SS226
D610	8-719-104-34	DIODE	1S2836
D702	8-719-400-18	DIODE	MA152WK
D703	8-713-300-88	DIODE	1T33C-01
D704	8-719-104-34	DIODE	1S2836
D850	8-719-104-34	DIODE	1S2836
D851	8-719-800-76	DIODE	1SS226
D852	8-719-800-76	DIODE	1SS226

## IC

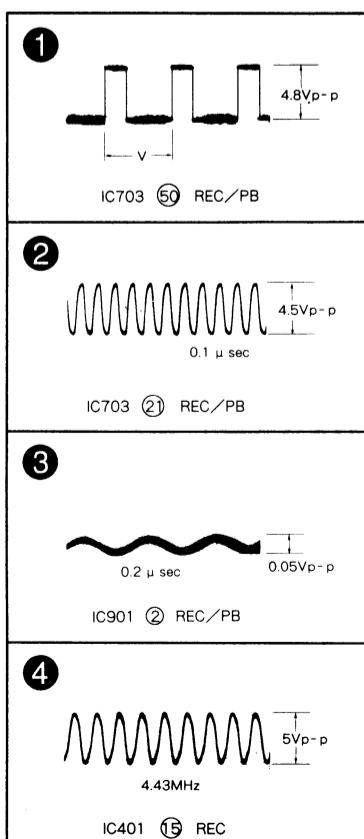
IC401	8-752-334-42	IC	CXD2106Q
IC501	8-759-100-93	IC	UPC393G2
IC602	8-759-111-56	IC	UPC4572G2
IC603	8-759-009-07	IC	MC14053BF
IC604	8-759-111-56	IC	UPC4572G2
IC605	8-759-009-06	IC	MC14052BF
IC606	8-759-111-56	IC	UPC4572G2
IC607	8-759-111-56	IC	UPC4572G2
IC608	8-759-009-07	IC	MC14053BF
IC609	8-759-009-07	IC	MC14053BF
IC610	8-759-009-06	IC	MC14052BF
IC611	8-759-009-06	IC	MC14052BF

IC612 8-759-009-07 IC MC14053BF  
IC614 8-759-822-92 IC LA7451M  
IC615 8-759-009-06 IC MC14052BF  
IC701 8-752-322-57 IC CXD1077M  
IC703 8-752-332-46 IC CXD1208Q

IC704 8-759-009-51 IC MC14538BF  
IC705 8-759-927-98 IC MB8464-15LLPF  
IC707 8-759-502-14 IC CF79050PV  
IC708 8-752-010-20 IC CX20102  
IC709 8-759-908-15 IC TL431CLP  
IC801 8-752-033-01 IC CXA1237AR  
IC850 8-759-111-56 IC UPC4572G2  
IC901 8-752-033-01 IC CXA1237AR  
IC902 8-759-009-06 IC MC14052BF  
IC903 8-759-009-06 IC MC14052BF  
IC904 8-759-111-56 IC UPC4572G2  
IC905 8-759-111-56 IC UPC4572G2  
IC906 8-759-111-56 IC UPC4572G2

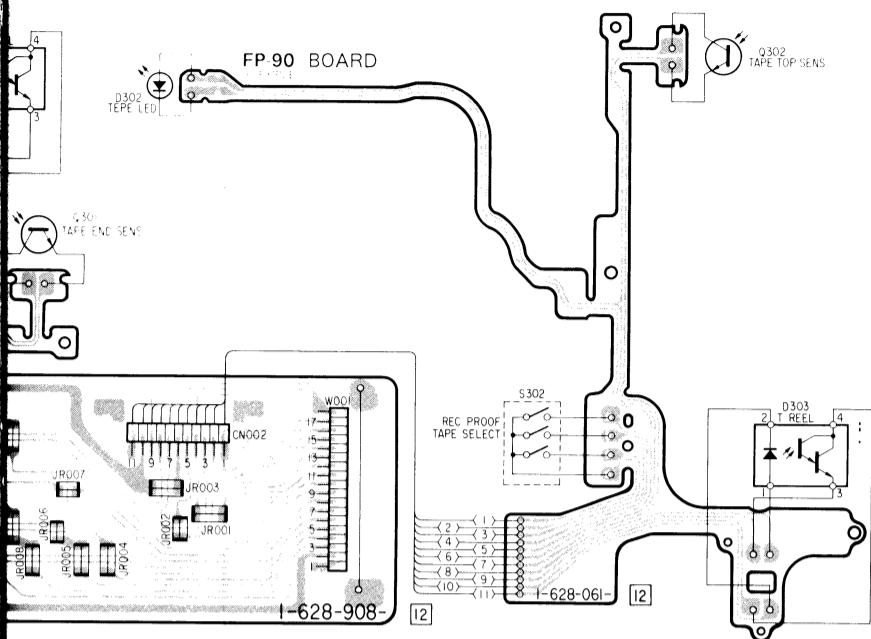
PC-50 BOARD  
(CONDUCTOR SIDE)

PC-50 BOARD



D302 8-719-820-44 PHOTO COUPLER TLP907-0  
D303 8-719-940-81 DIODE GL452S

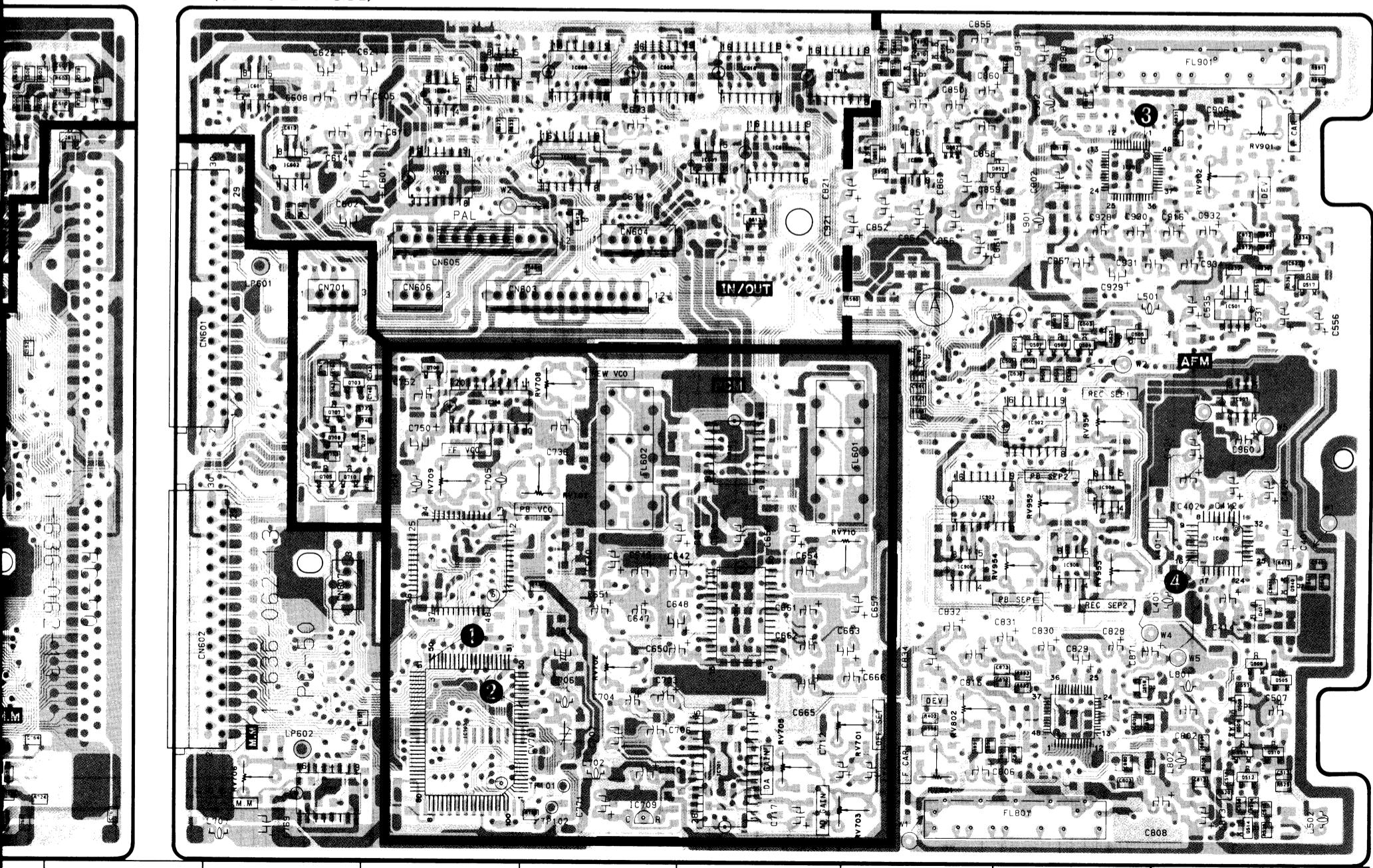
TRANSISTOR



## TRANSISTOR

Q501	8-729-100-66	TRANSISTOR	2SC1623	Q520	8-729-901-01	TRANSISTOR	DTC144EK	Q705	8-729-100-66	TRANSISTOR	2SC1623	Q856	8-729-100-66	TRANSISTOR	2SC1623
Q502	8-729-901-01	TRANSISTOR	DTC144EK	Q521	8-729-901-06	TRANSISTOR	DTA144EK	Q706	8-729-100-66	TRANSISTOR	2SC1623	Q901	8-729-901-01	TRANSISTOR	DTC144EK
Q503	8-729-100-66	TRANSISTOR	2SC1623	Q522	8-729-901-01	TRANSISTOR	DTC144EK	Q707	8-729-100-66	TRANSISTOR	2SC1623	Q902	8-729-901-01	TRANSISTOR	DTC144EK
Q504	8-729-902-XX	TRANSISTOR	DTC114TK	Q523	8-729-901-01	TRANSISTOR	DTC144EK	Q708	8-729-901-06	TRANSISTOR	DTA144EK	Q940	8-729-100-66	TRANSISTOR	2SC1623
Q505	8-729-901-01	TRANSISTOR	DTC144EK	Q524	8-729-100-66	TRANSISTOR	2SC1623	Q709	8-729-100-66	TRANSISTOR	2SC1623				
Q506	8-729-216-22	TRANSISTOR	2SA1162	Q526	8-729-100-66	TRANSISTOR	2SC1623	Q720	8-729-901-01	TRANSISTOR	DTC144EK				
Q508	8-729-100-66	TRANSISTOR	2SC1623	Q601	8-729-901-06	TRANSISTOR	DTA144EK	Q721	8-729-901-01	TRANSISTOR	DTC144EK				
Q509	8-729-903-10	TRANSISTOR	FMW1	Q602	8-729-116-05	TRANSISTOR	2SK160-K5	Q801	8-729-901-01	TRANSISTOR	DTC144EK				
Q511	8-729-100-66	TRANSISTOR	2SC1623	Q603	8-729-116-05	TRANSISTOR	2SK160-K5	Q802	8-729-901-01	TRANSISTOR	DTC144EK				
Q512	8-729-100-66	TRANSISTOR	2SC1623	Q606	8-729-216-22	TRANSISTOR	2SA1162	Q840	8-729-100-66	TRANSISTOR	2SC1623				
Q514	8-729-216-22	TRANSISTOR	2SA1162	Q607	8-729-216-22	TRANSISTOR	2SA1162	Q851	8-729-902-96	TRANSISTOR	FMS1				
Q515	8-729-100-66	TRANSISTOR	2SC1623	Q610	8-729-901-01	TRANSISTOR	DTC144EK	Q852	8-729-904-04	TRANSISTOR	FMS2				
Q516	8-729-100-66	TRANSISTOR	2SC1623	Q611	8-729-100-66	TRANSISTOR	2SC1623	Q853	8-729-100-66	TRANSISTOR	2SC1623				
Q517	8-729-100-66	TRANSISTOR	2SC1623	Q660	8-729-100-66	TRANSISTOR	2SC1623	Q854	8-729-100-66	TRANSISTOR	2SC1623				
Q518	8-729-901-06	TRANSISTOR	DTA144EK	Q703	8-729-100-66	TRANSISTOR	2SC1623	Q855	8-729-100-66	TRANSISTOR	2SC1623				

**PC-50 BOARD**  
**(COMPONENT SIDE)**



1 2 3 4 5 6 7 8 9 10 11

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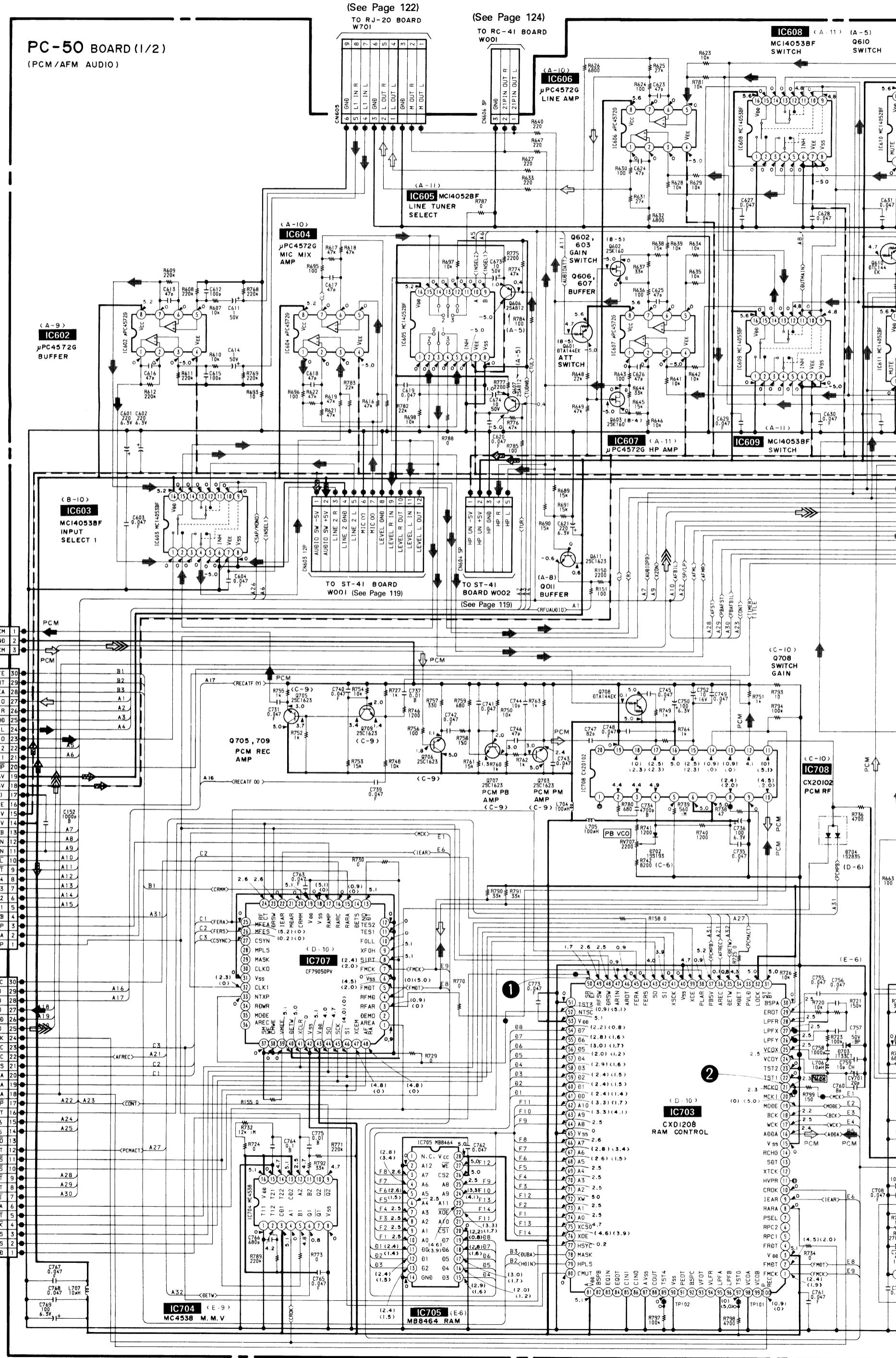
K

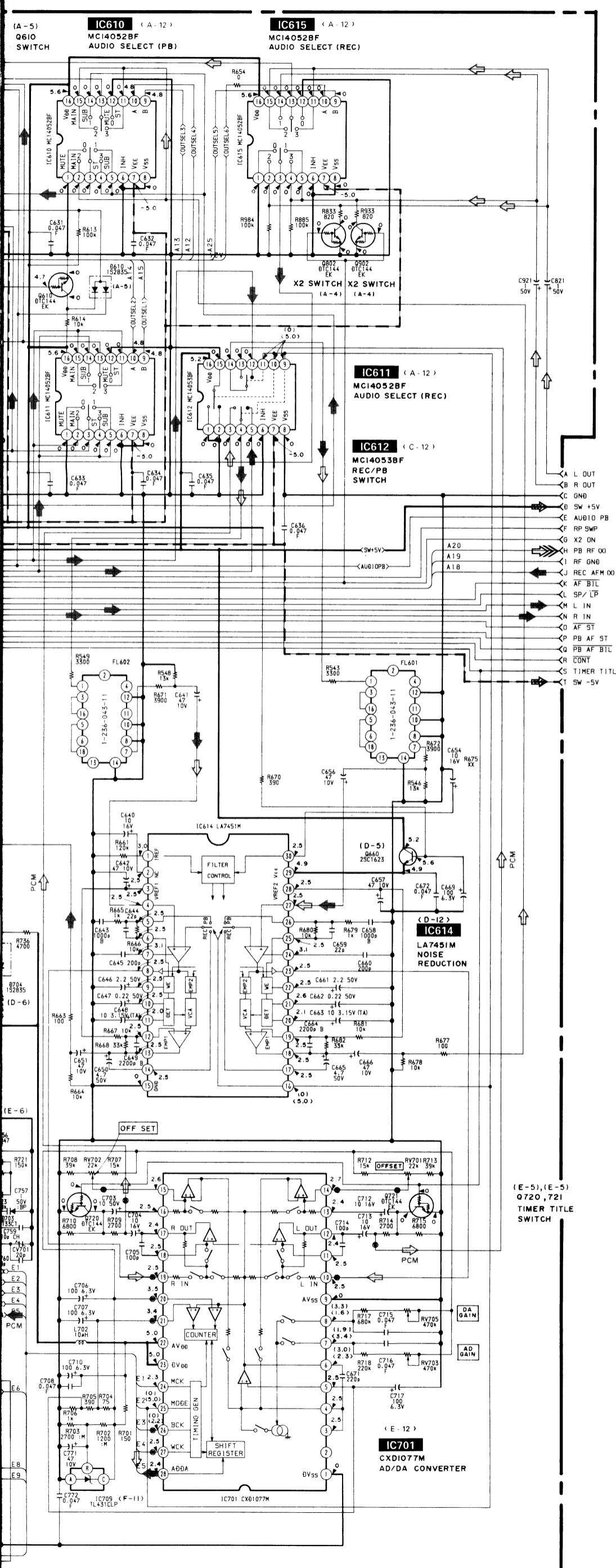
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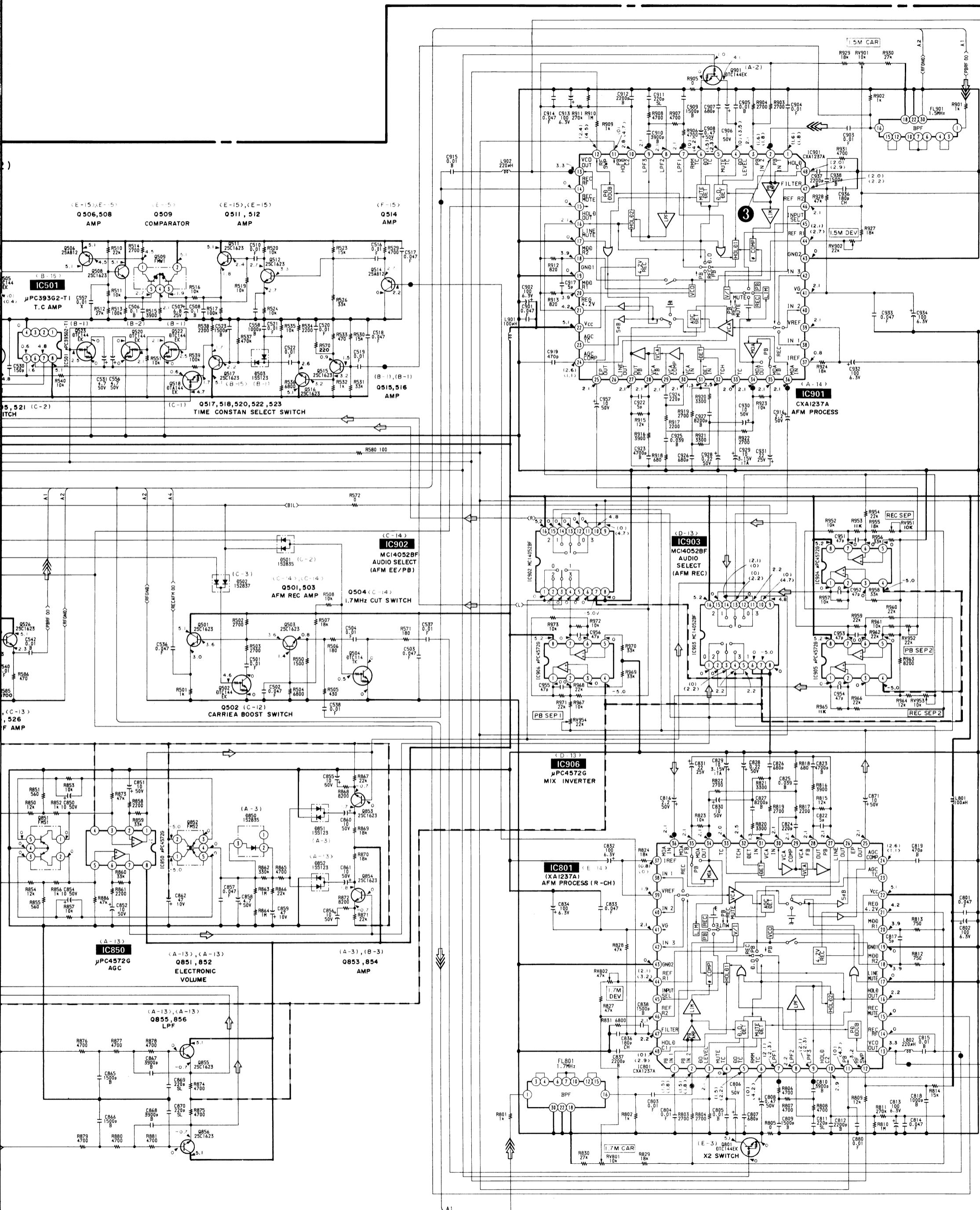
O

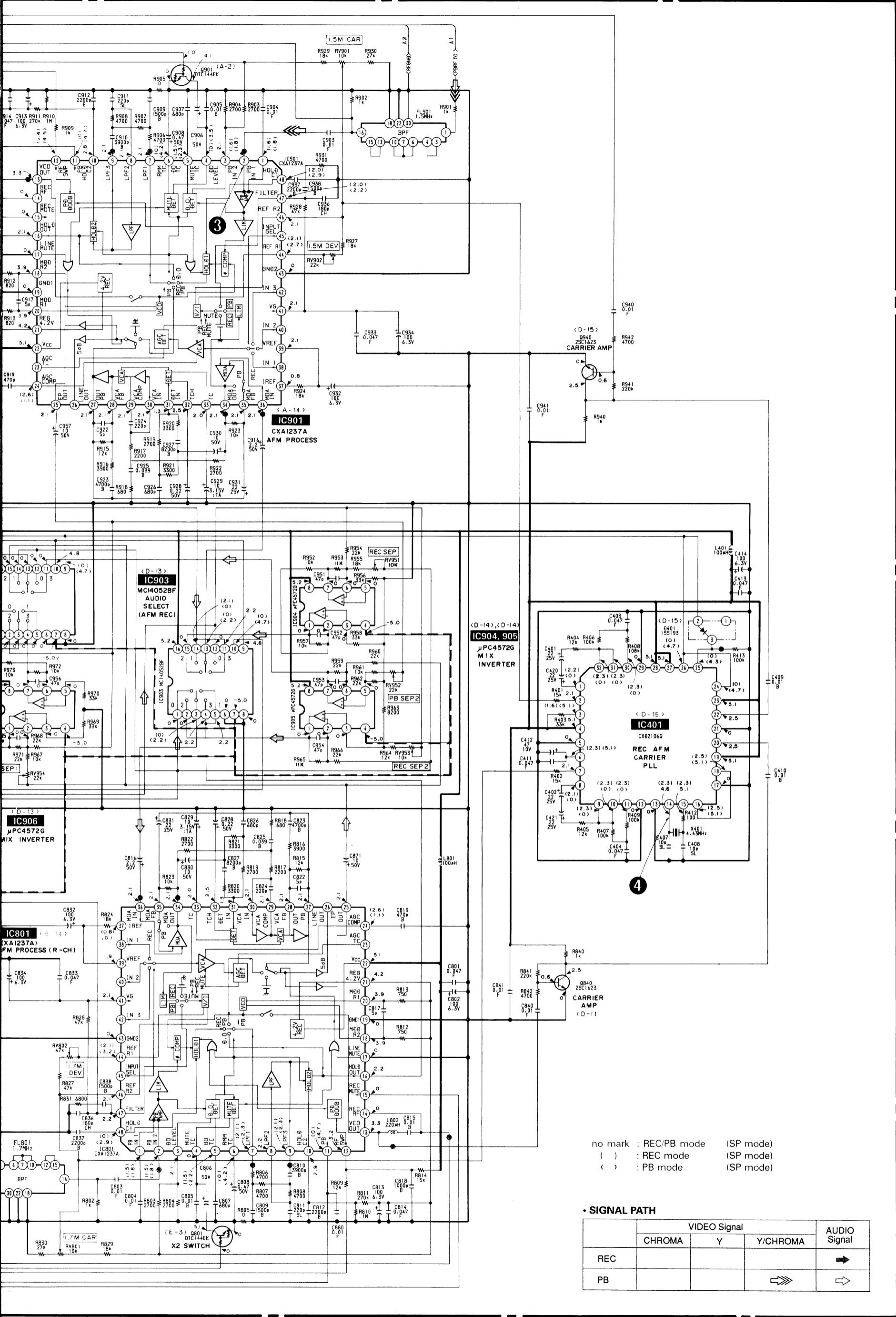


**SIGNAL PATH**

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC				➡
PB			➡	➡







no mark : REC/PB mode (SP mode)  
 ( ) : REC mode (SP mode)  
 ( ) : PB mode (SP mode)

#### • SIGNAL PATH

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC				➡
PB			➡➡	➡

**TU-100 (TUNER) PRINTED WIRING BOARD**

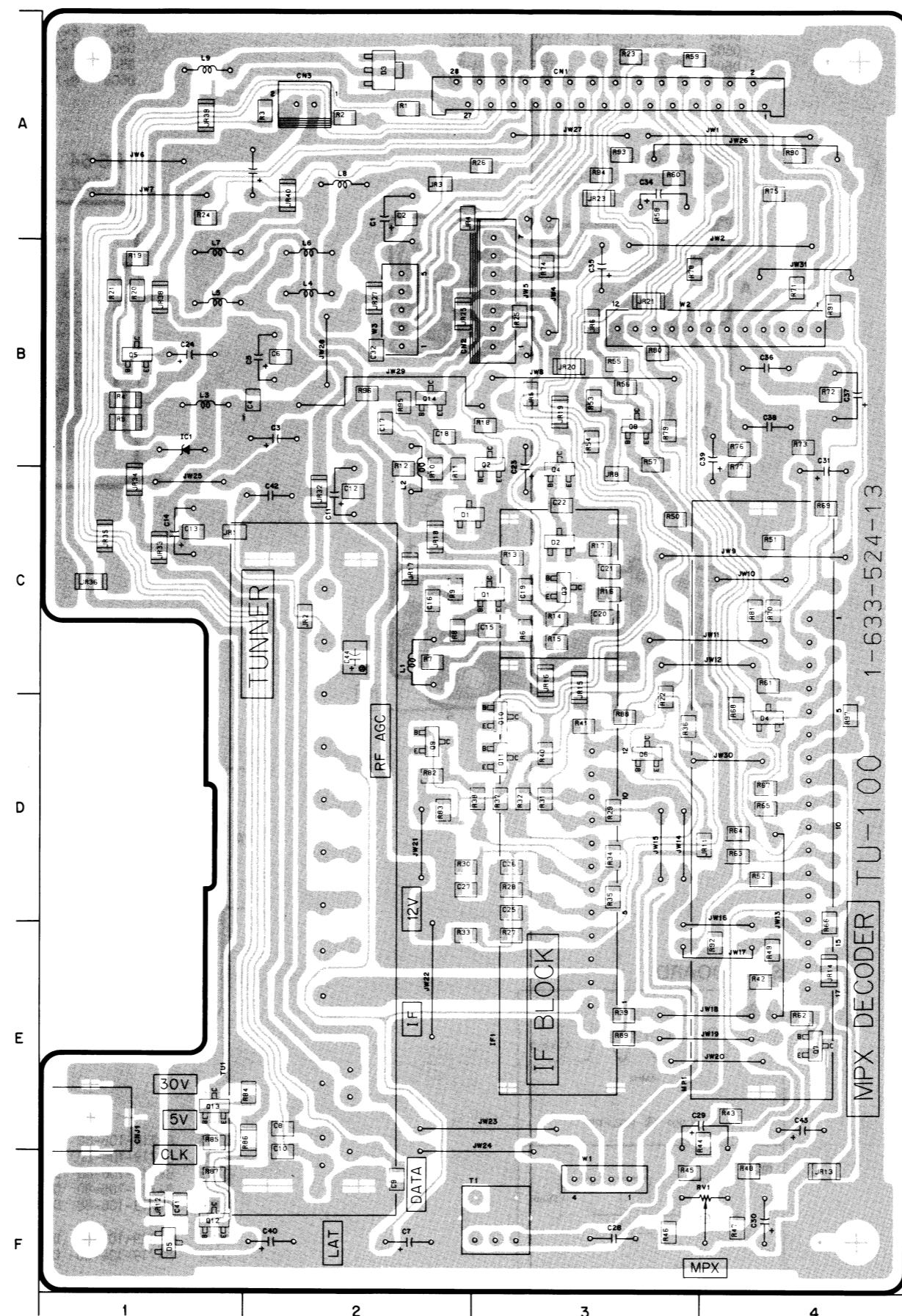
—Ref. No. TU-100 Board: 5000 series—

Caution:

Pattern face side: Parts on the pattern face side seen from (Conductor Side) the pattern face are indicated.

Parts face side: Parts on the parts face side seen from the (Component side) parts face are indicated.

**TU-100 BOARD  
(CONDUCTOR SIDE)**



**TU-100 (TUNER) SCHEMATIC DIAG**

—Ref. No. TU-100 Board: 5000 seri

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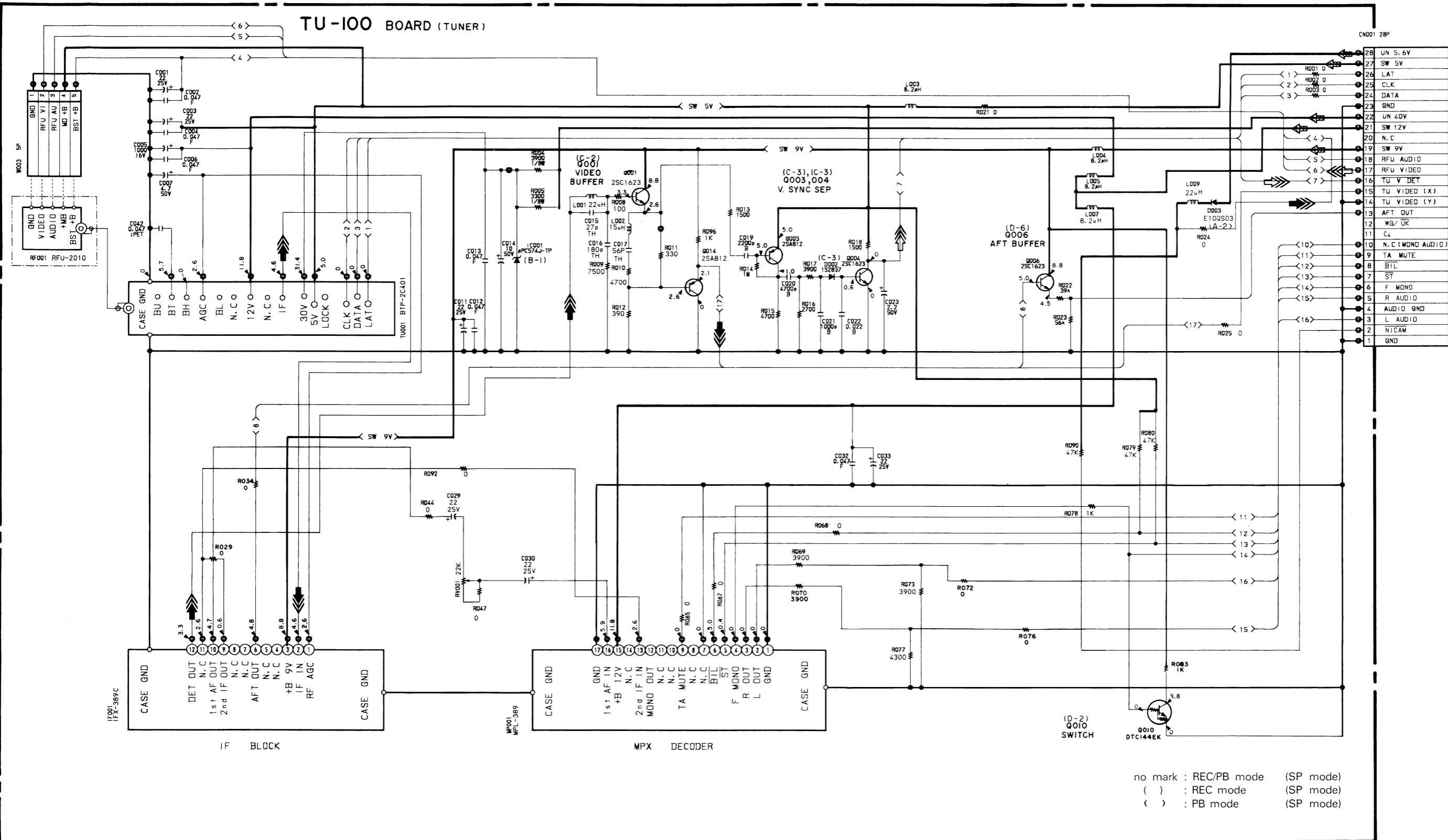
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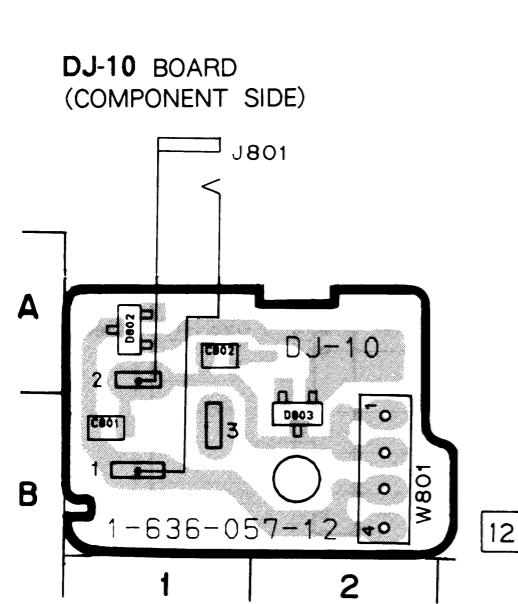
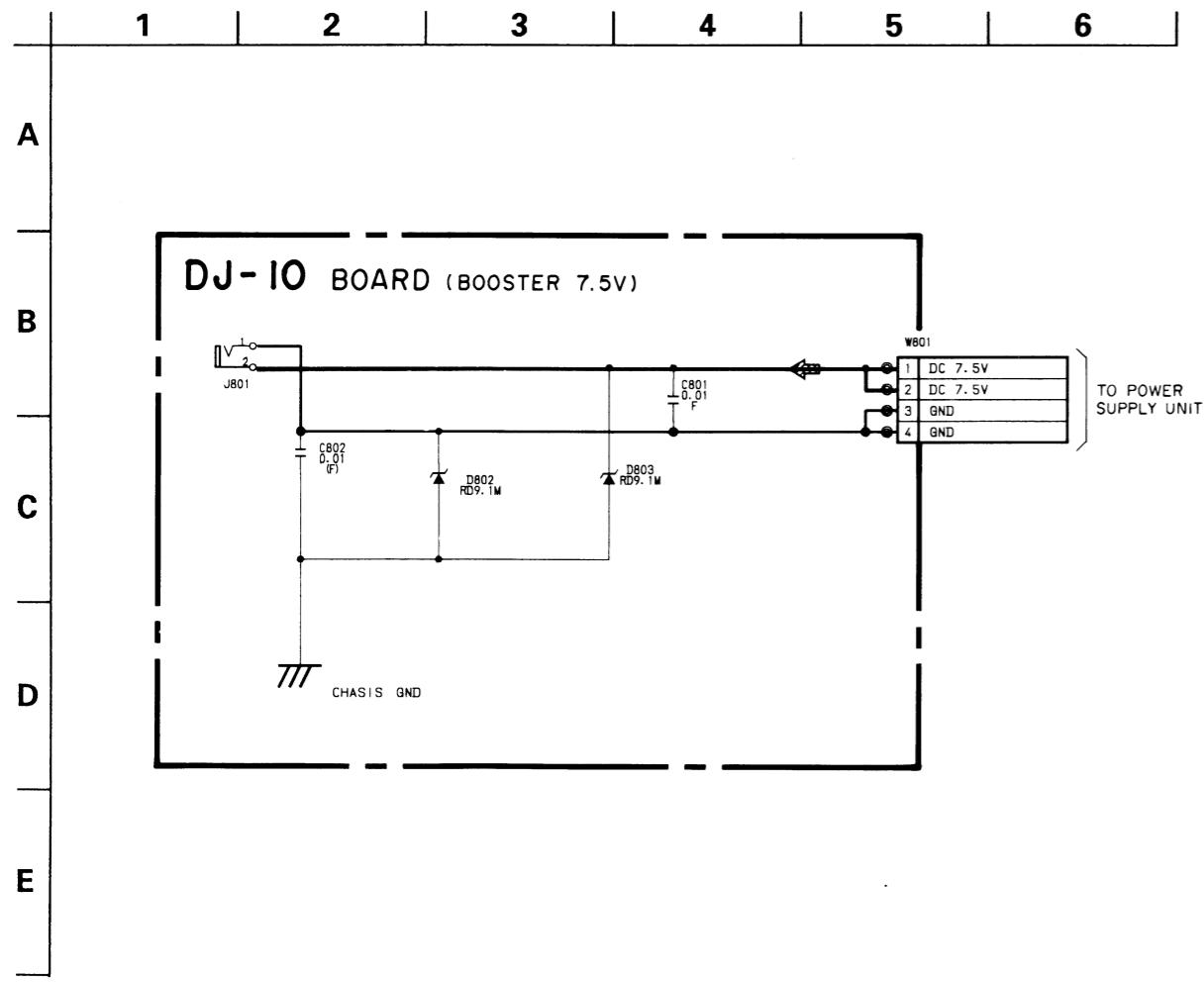
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16



no mark : REC/PB mode (SP mode)  
( ) : REC mode (SP mode)  
< > : PB mode (SP mode)

**SIGNAL PATH**

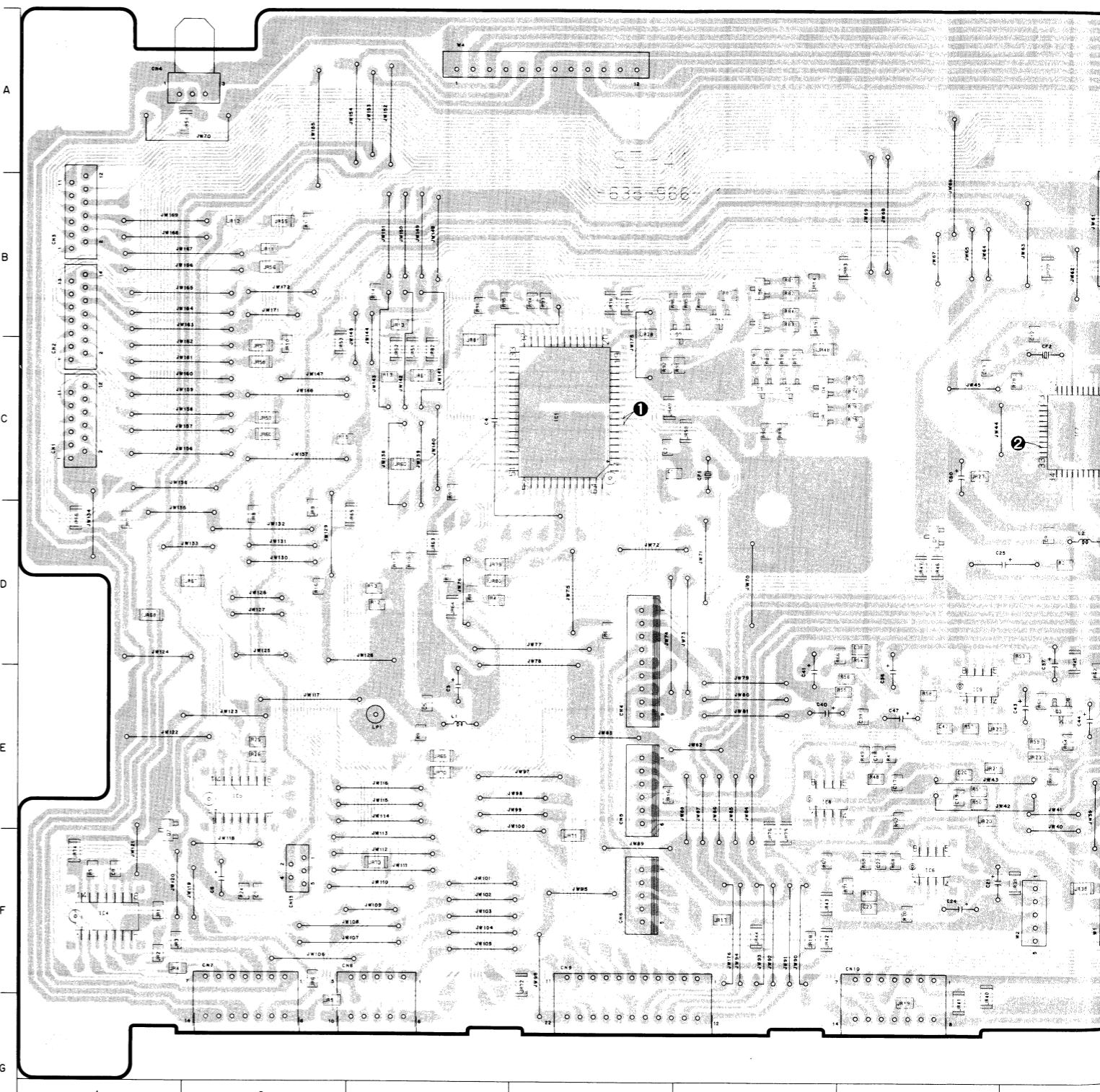
	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC			➡	➡
PB			➡	

**DJ-10 (BOOSTER 7.5V) PRINTED WIRING BOARD**  
—Ref. No. DJ-10 Board: 1000 series—**DJ-10 (BOOSTER 7.5V) SCHEMATIC DIAGRAMS**  
—Ref. No. DJ-10 Board: 1000 series—**ST-41 (SYSTEM CONTROL), MC-60 (MIC/HEAD HONE TERMINAL), RS-54 (SELECTOR),  
FJ-11 (V/A LINE INPUT) PRINTED WIRING BOARDS**

—Ref. No. ST-41, MC-60, RS-54, FJ-11 Boards: 6000 series—

DIODE			IC		
D001	8-719-400-18	DIODE MA152WK	IC001	8-759-152-52	IC UPD-75116
D002	8-719-400-18	DIODE MA152WK	IC002	8-759-147-30	IC UPD75004GB-VSX182
D003	8-719-400-18	DIODE MA152WK	IC003	8-759-030-60	IC SDA5642
D025	8-719-911-19	DIODE 1SS119	IC004	8-759-932-54	IC MC14066BF
			IC005	8-759-990-07	IC TL1596CNS
			IC006	8-759-111-56	IC UPC4572G2
			IC007	8-759-111-56	IC UPC4572G2
			IC008	8-759-111-56	IC UPC4572G2
			IC009	8-759-111-56	IC UPC4572G2
			Q001	8-729-901-04	TRANSISTOR DTA114EK
			Q002	8-729-901-04	TRANSISTOR DTA114EK
			Q003	8-729-100-66	TRANSISTOR 2SC1623
			Q004	8-729-100-66	TRANSISTOR 2SC1623
			Q005	8-729-100-66	TRANSISTOR 2SC1623

Caution:  
 Pattern face side: Parts on the pattern  
 (Conductor Side) the pattern face are  
 Parts face side: Parts on the parts fa  
 (Component side) parts face are indica

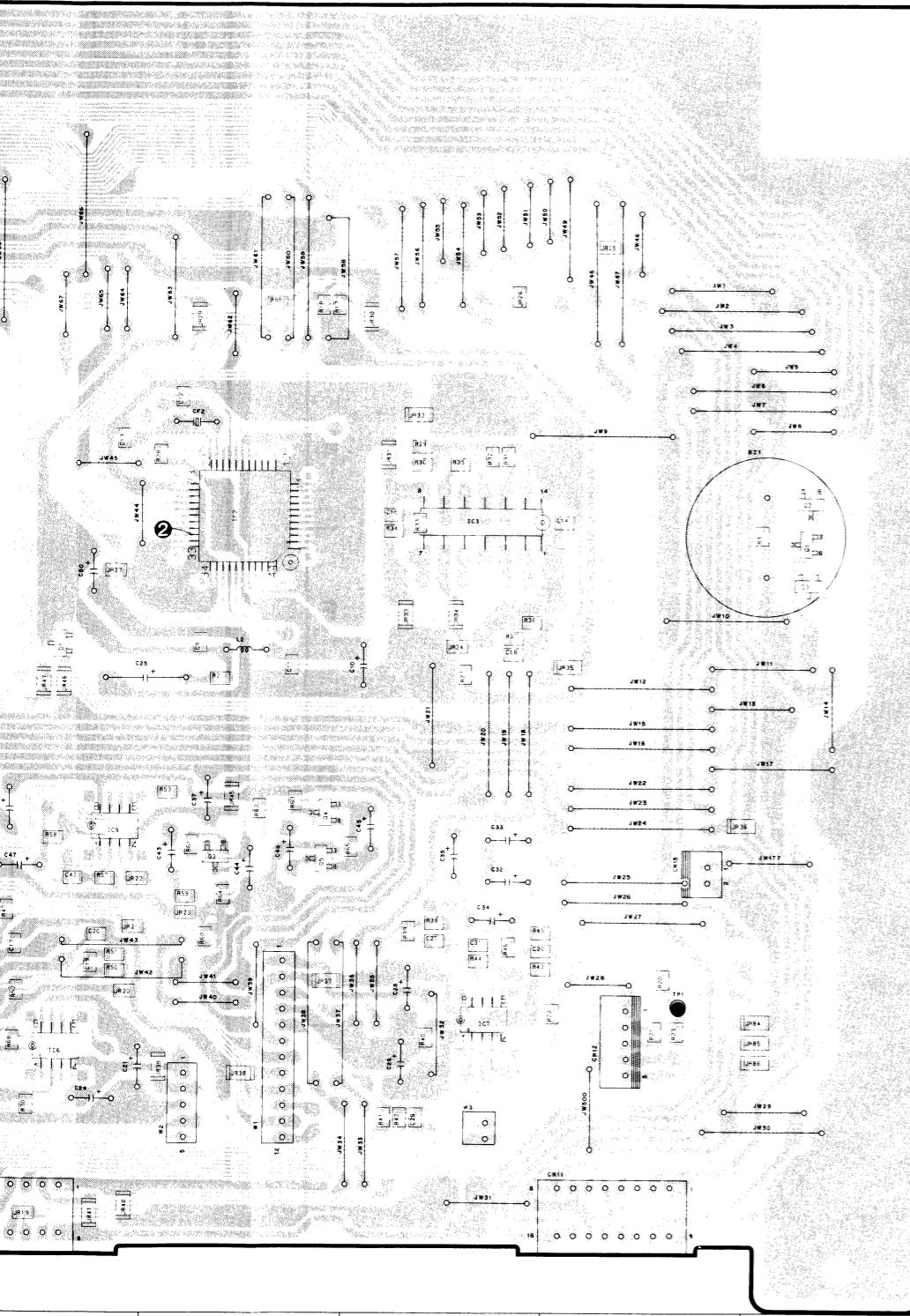
**ST-41 BOARD  
(CONDUCTOR SIDE)**

face side: Parts on the pattern face side seen from the pattern face are indicated.

side: Parts on the parts face side seen from the parts face are indicated.

### TRANSISTOR

1-04 TRANSISTOR DTA114EK  
1-04 TRANSISTOR DTA114EK  
0-66 TRANSISTOR 2SC1623  
0-66 TRANSISTOR 2SC1623  
0-66 TRANSISTOR 2SC1623



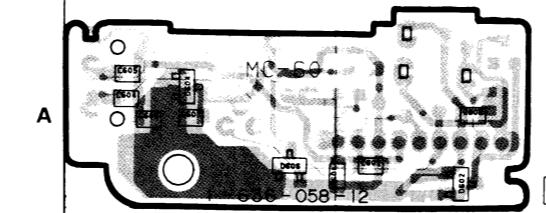
### DIODE

D601 8-719-106-45 DIODE RD9.1M-B3  
D602 8-719-106-45 DIODE RD9.1M-B3  
D604 8-719-106-45 DIODE RD9.1M-B3  
D607 8-719-106-45 DIODE RD9.1M-B3

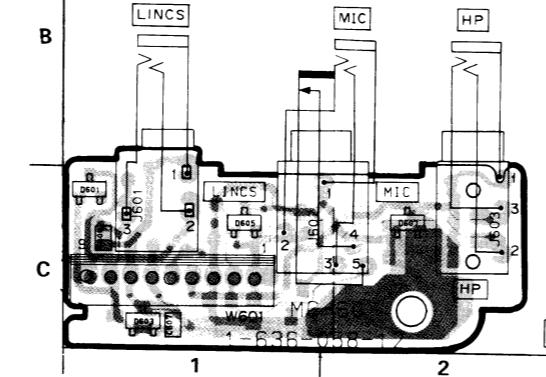
### DIODE

D505 8-719-106-43 DIODE RD9.1M-B1  
D506 8-719-106-43 DIODE RD9.1M-B1  
D507 8-719-106-43 DIODE RD9.1M-B1  
D508 8-719-106-43 DIODE RD9.1M-B1

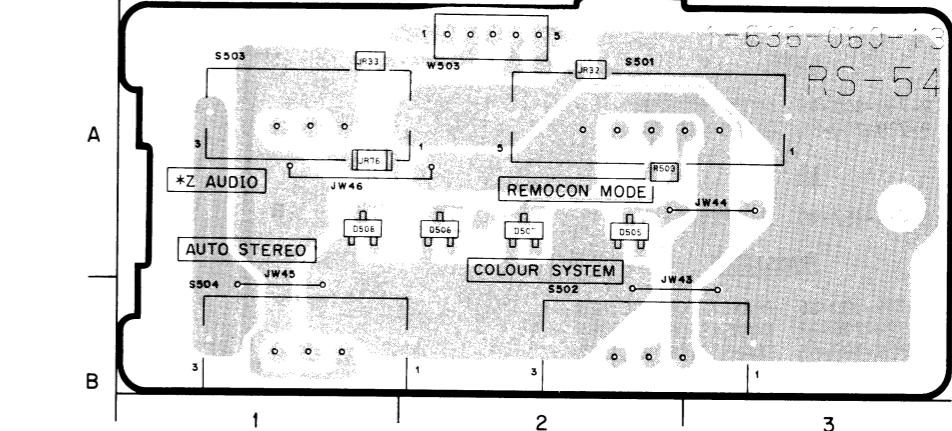
**MC-60 BOARD**  
(CONDUCTOR SIDE)



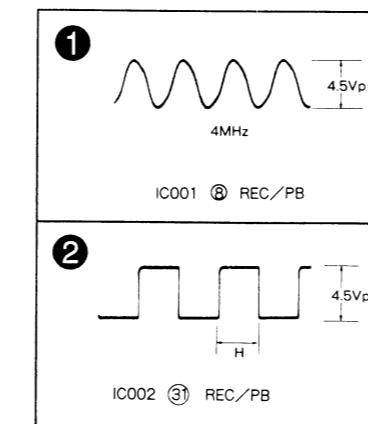
**MC-60 BOARD**  
(COMPONENT SIDE)



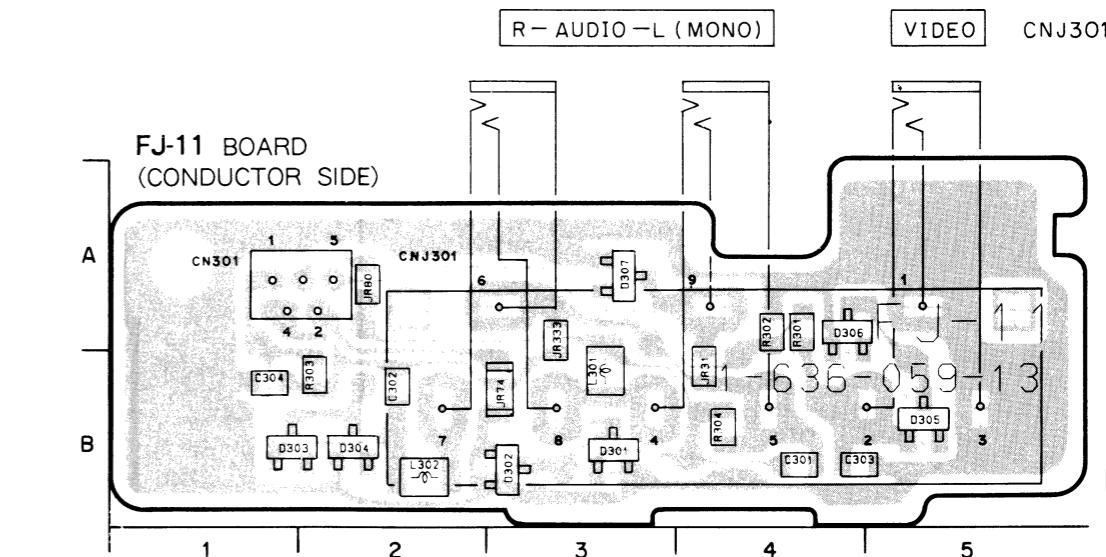
**RS-54 BOARD**  
(CONDUCTOR SIDE)



**ST-41 BOARD**



**FJ-11 BOARD**  
(CONDUCTOR SIDE)



### DIODE

D301 8-719-106-80 DIODE RD13M-B2  
D302 8-719-106-80 DIODE RD13M-B2  
D303 8-719-106-80 DIODE RD13M-B2  
D304 8-719-106-80 DIODE RD13M-B2  
D305 8-719-106-80 DIODE RD13M-B2

D306 8-719-106-80 DIODE RD13M-B2  
D307 8-719-106-80 DIODE RD13M-B2

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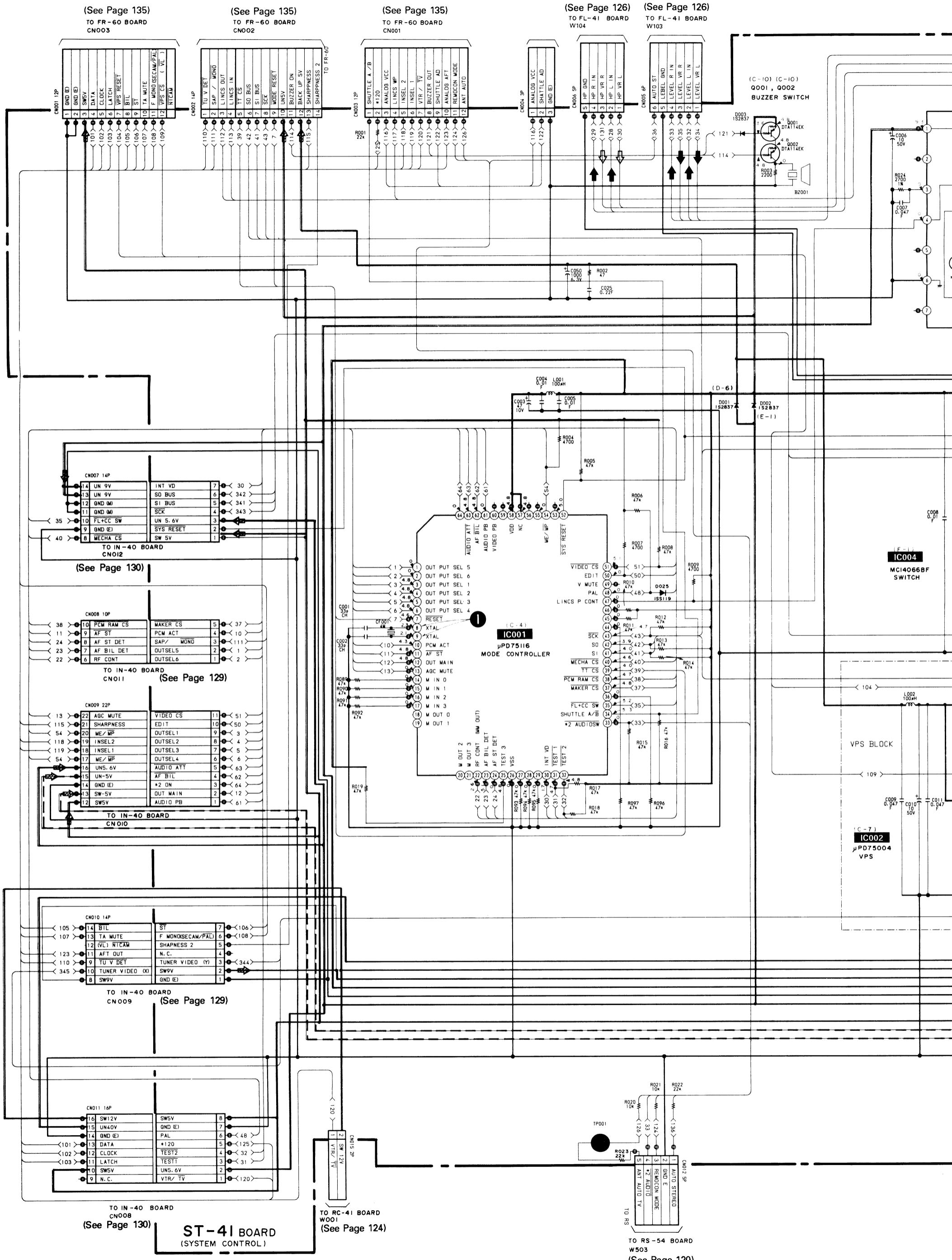
K

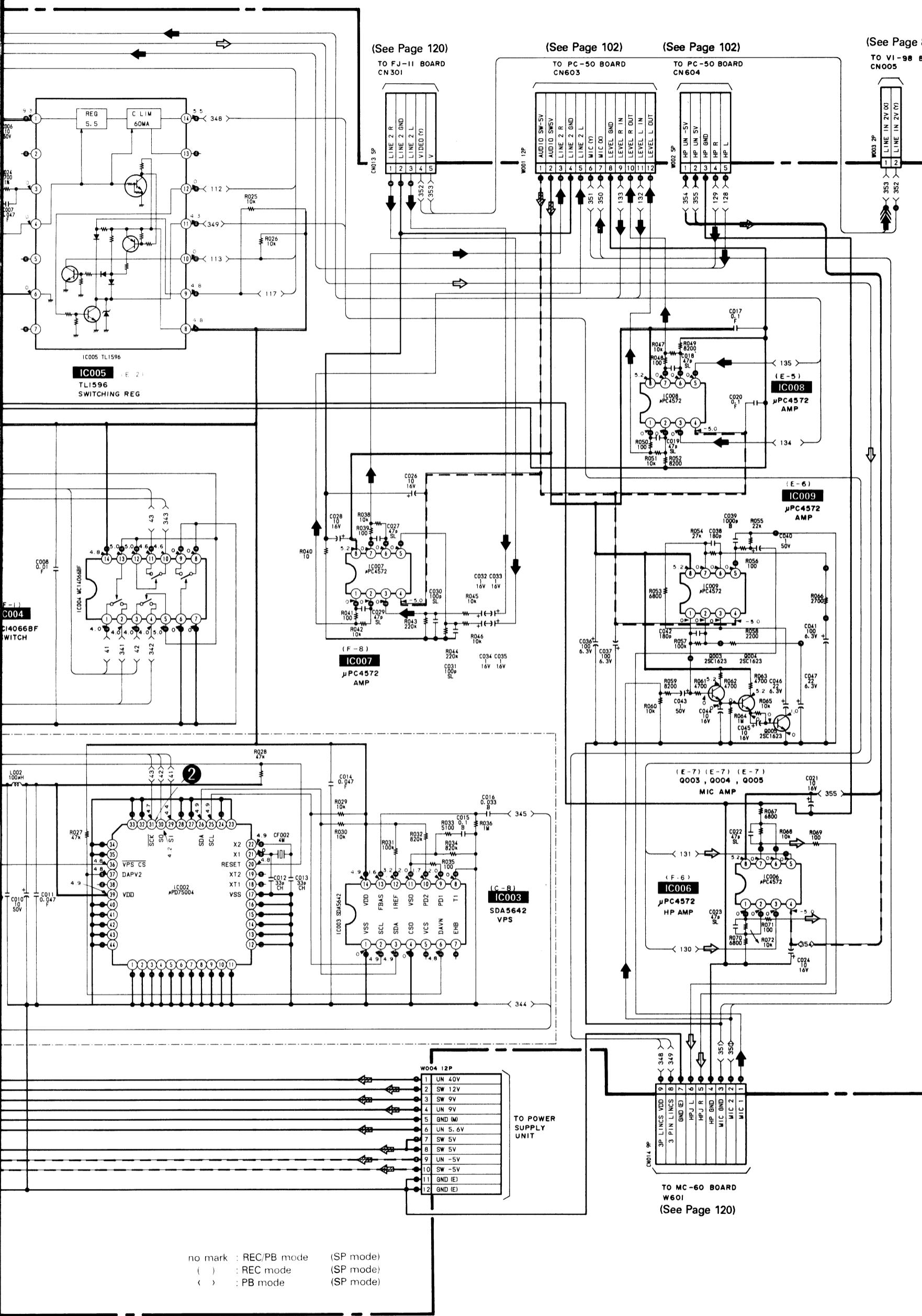
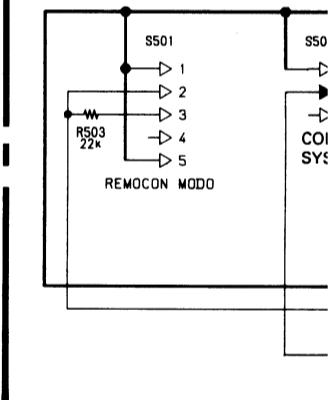
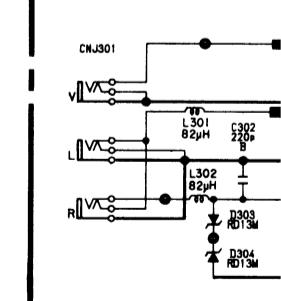
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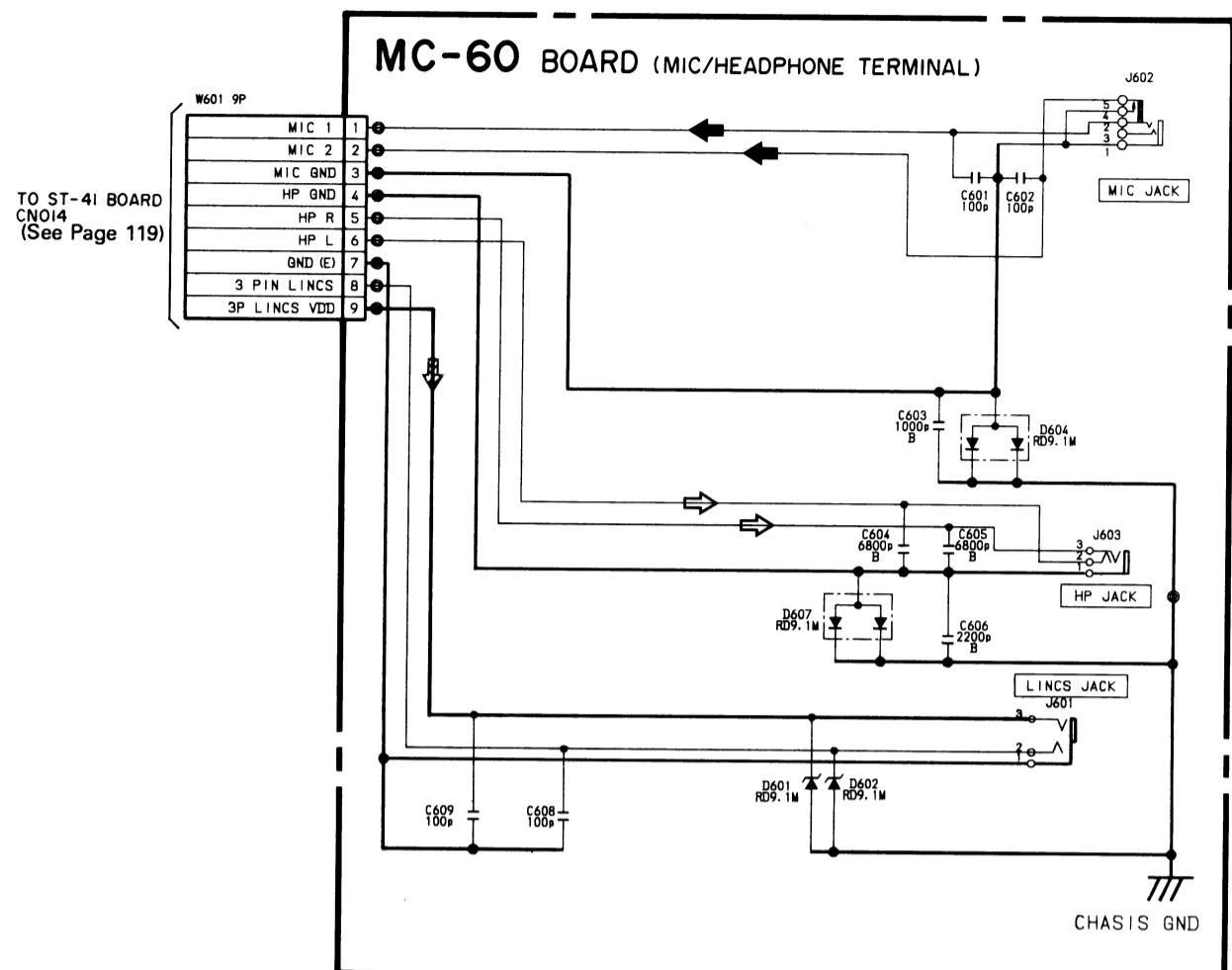
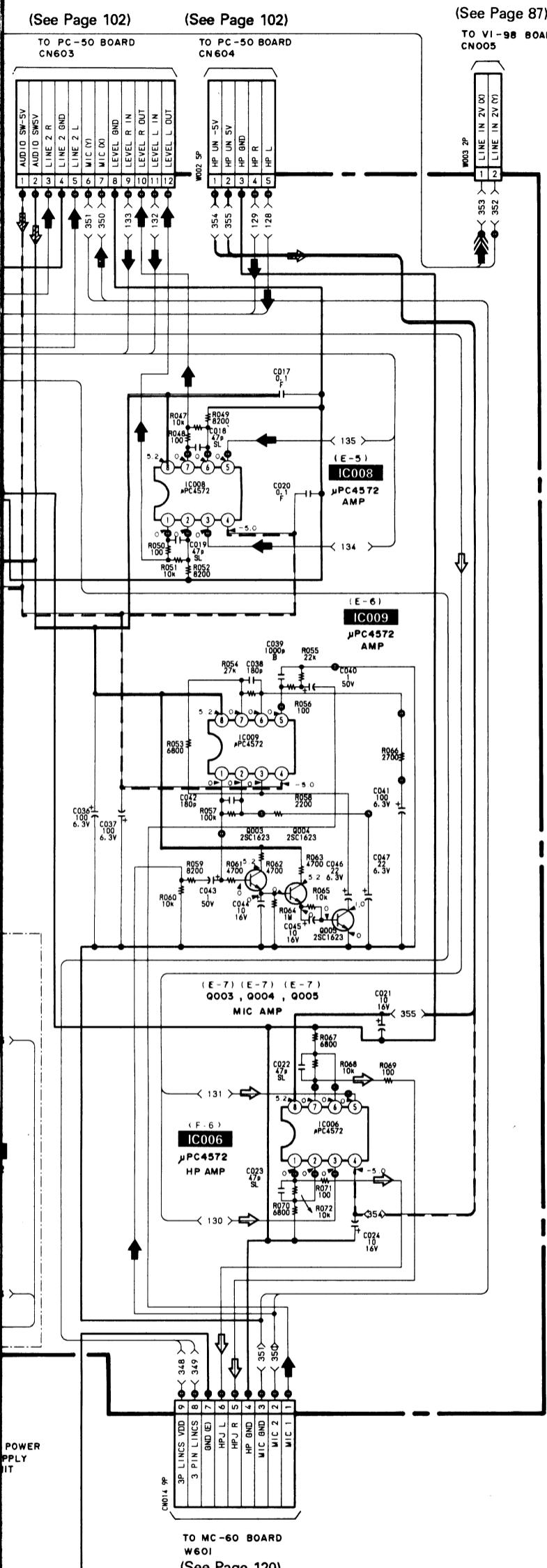
0



**RS-54 BOARD (M)****FJ-II BOARD (V)**

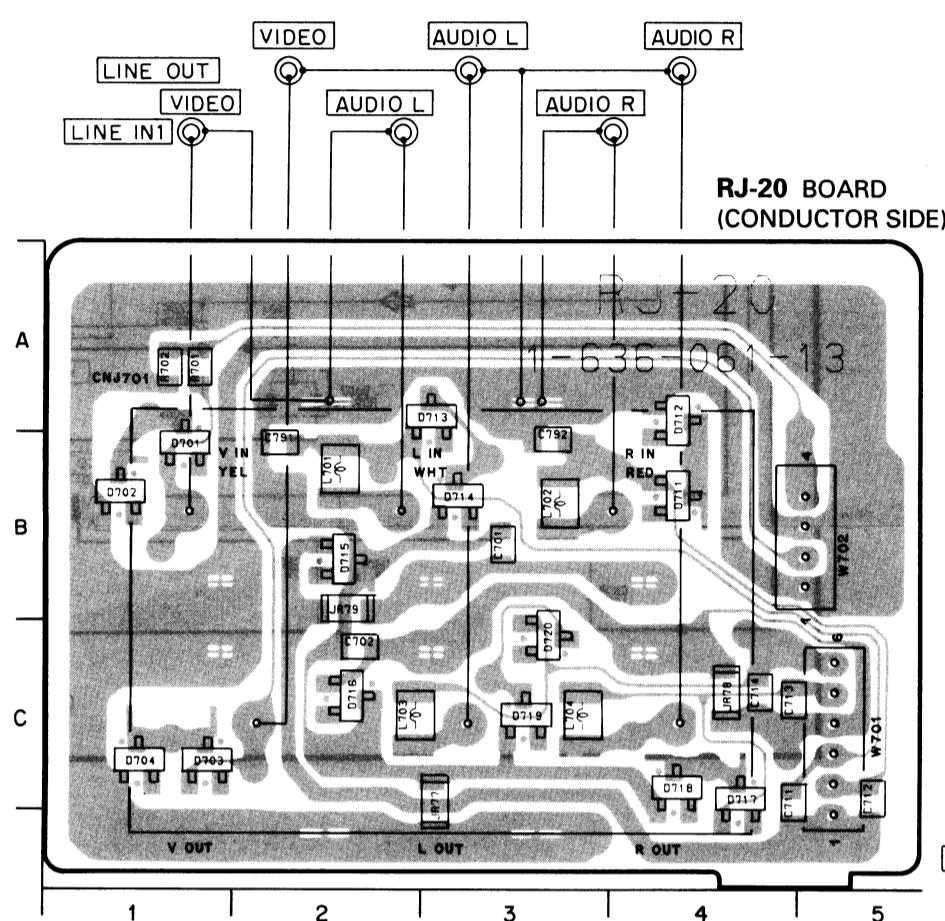
**SIGNAL**

REC
PB

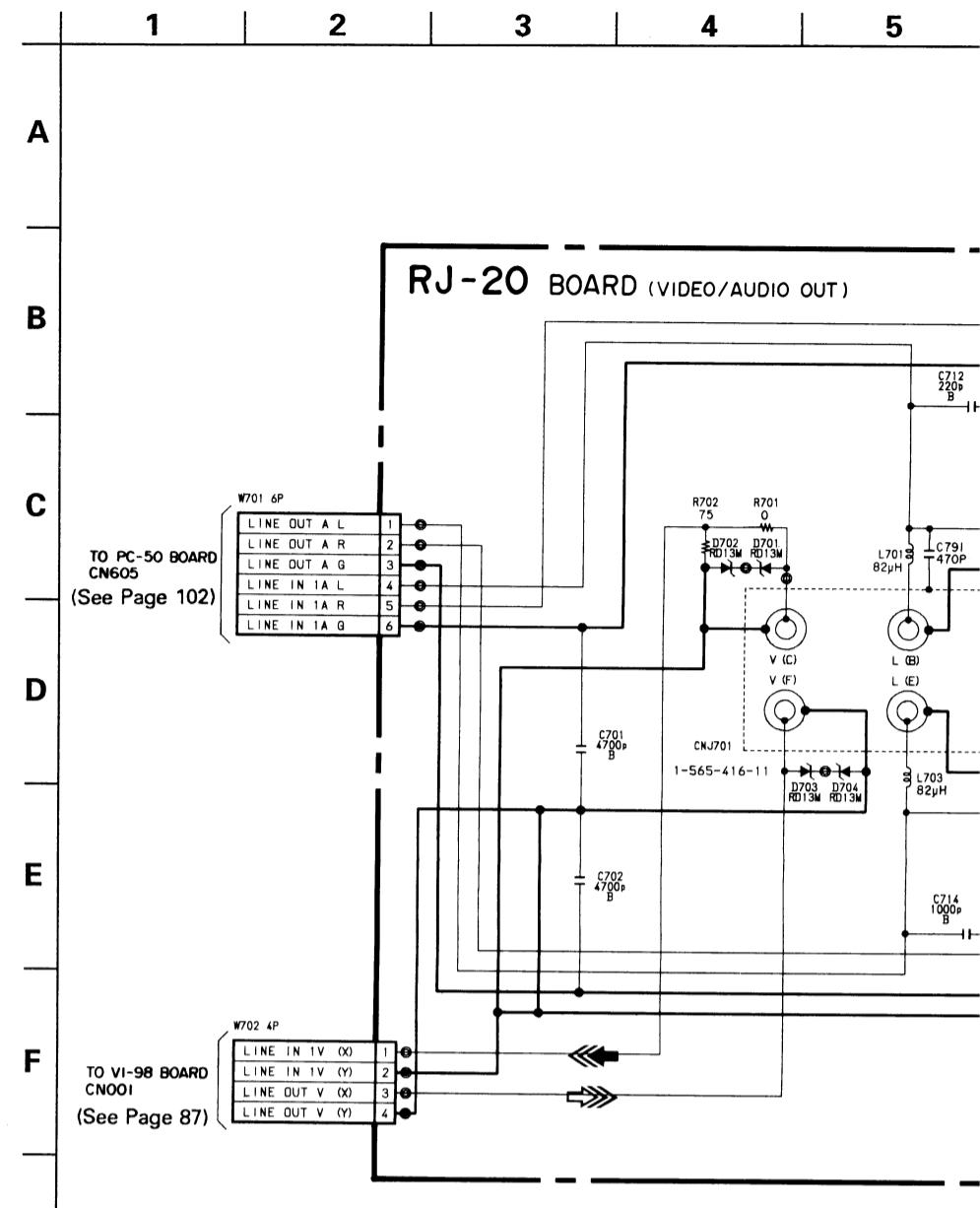


**RJ-20 (VIDEO/AUDIO OUTPUT) PRINTED WIRING BOARD**  
—Ref. No. RJ-20 Board: 2000 series—

DIODE		
D701	8-719-106-80	DIODE RD13M-B2
D702	8-719-106-80	DIODE RD13M-B2
D703	8-719-106-80	DIODE RD13M-B2
D704	8-719-106-80	DIODE RD13M-B2
D711	8-719-106-44	DIODE RD9.1M-B2
D712	8-719-106-44	DIODE RD9.1M-B2
D713	8-719-106-44	DIODE RD9.1M-B2
D714	8-719-106-44	DIODE RD9.1M-B2
D715	8-719-106-44	DIODE RD9.1M-B2
D716	8-719-106-44	DIODE RD9.1M-B2
D717	8-719-106-44	DIODE RD9.1M-B2
D718	8-719-106-44	DIODE RD9.1M-B2
D719	8-719-106-44	DIODE RD9.1M-B2
D720	8-719-106-44	DIODE RD9.1M-B2



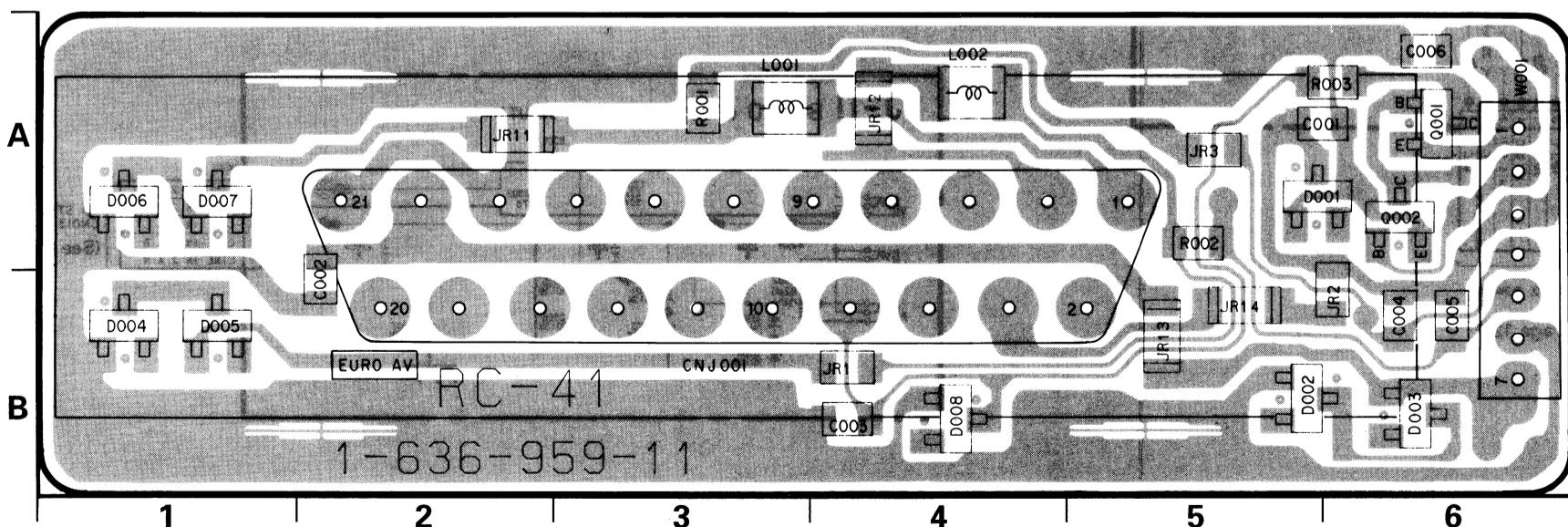
**RJ-20 (VIDEO/AUDIO OUTPUT) SCHEMATIC DIAGRAM**  
—Ref. No. RJ-20 Board: 2000 series—



**RC-41 (EURO-AV OUTPUT) PRINTED WIRING BOARD**  
—Ref. No. RC-41 Board: 7000 series—

DIODE			TRANSISTOR		
D001	8-719-106-43	DIODE RD9.1M-B1	Q001	8-729-901-06	TRANSISTOR DTA144EK
D002	8-719-106-43	DIODE RD9.1M-B1	Q002	8-729-901-01	TRANSISTOR DTC144EK
D003	8-719-106-43	DIODE RD9.1M-B1			
D004	8-719-106-43	DIODE RD9.1M-B1			
D005	8-719-106-43	DIODE RD9.1M-B1			
D006	8-719-106-43	DIODE RD9.1M-B1			
D007	8-719-106-43	DIODE RD9.1M-B1			
D008	8-719-106-80	DIODE RD13M-B2			

**RC-41 BOARD**  
(CONDUCTOR SIDE)



**FL-41 (SELECTOR) PRINTED WIRING BOARD**  
—Ref. No. FL-41 Board: 7000 series—

5 | 6

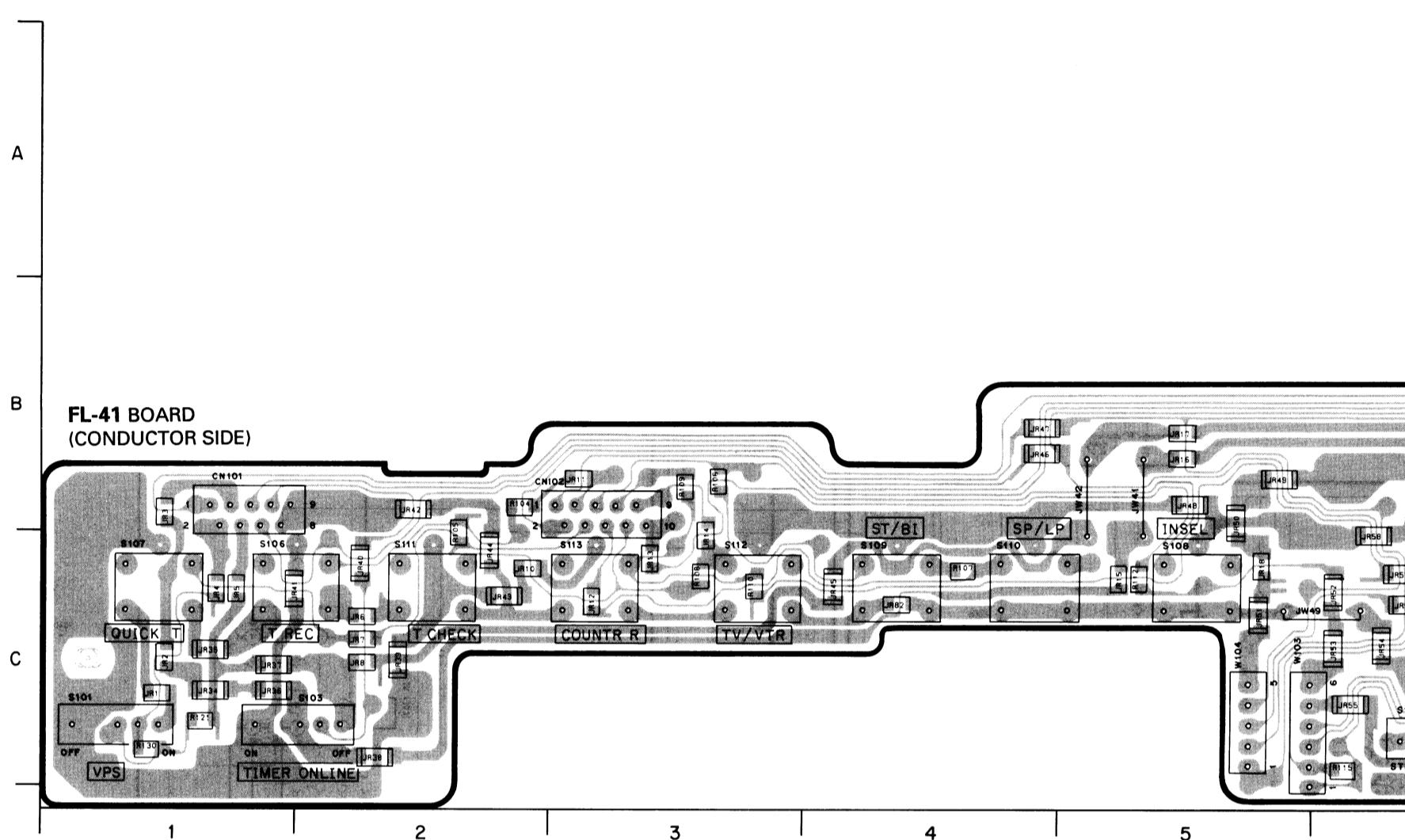
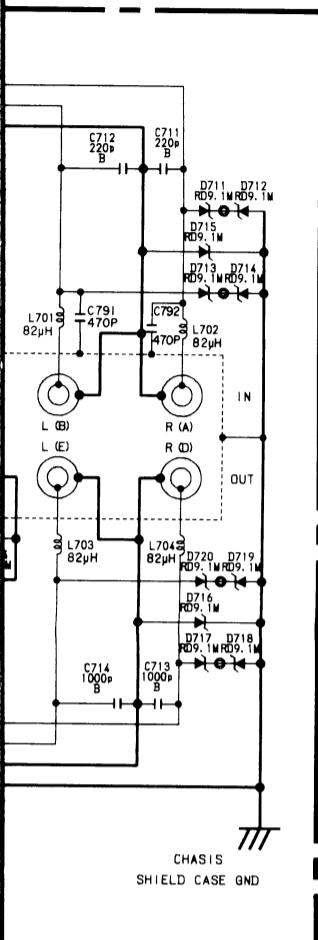
**Caution:**

Pattern face side: Parts on the pattern face side seen from (Conductor Side) the pattern face are indicated.

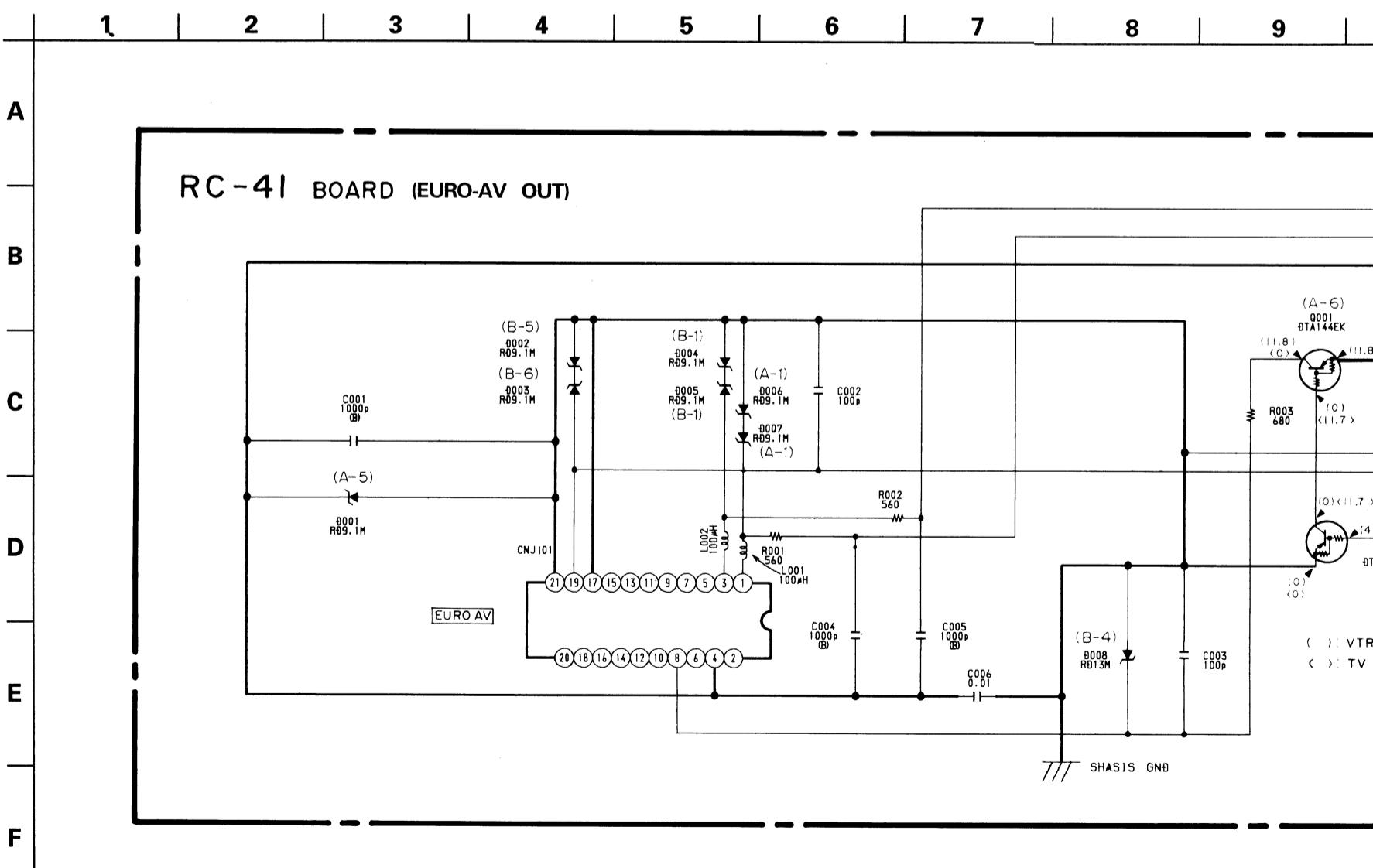
Parts face side: Parts on the parts face side seen from the (Component side) parts face are indicated.

**DIODE**

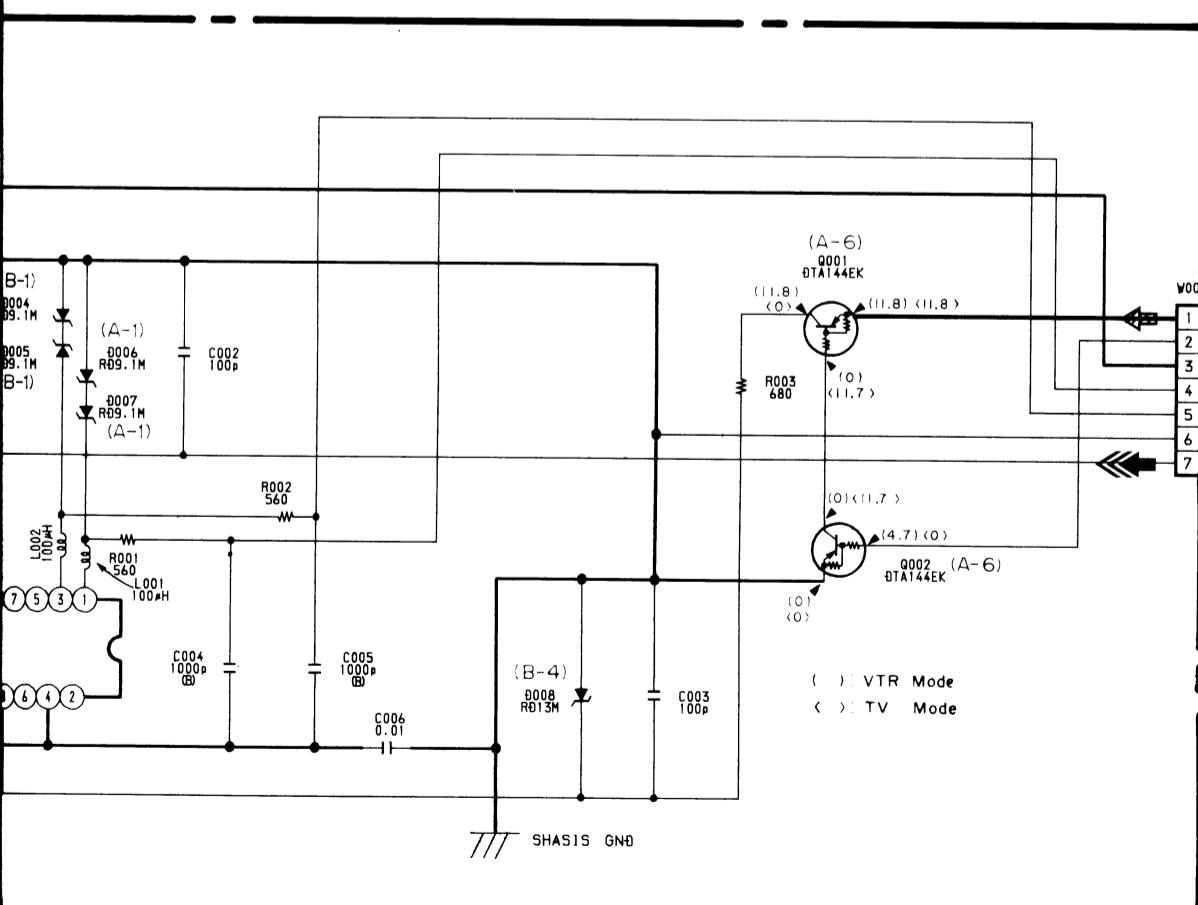
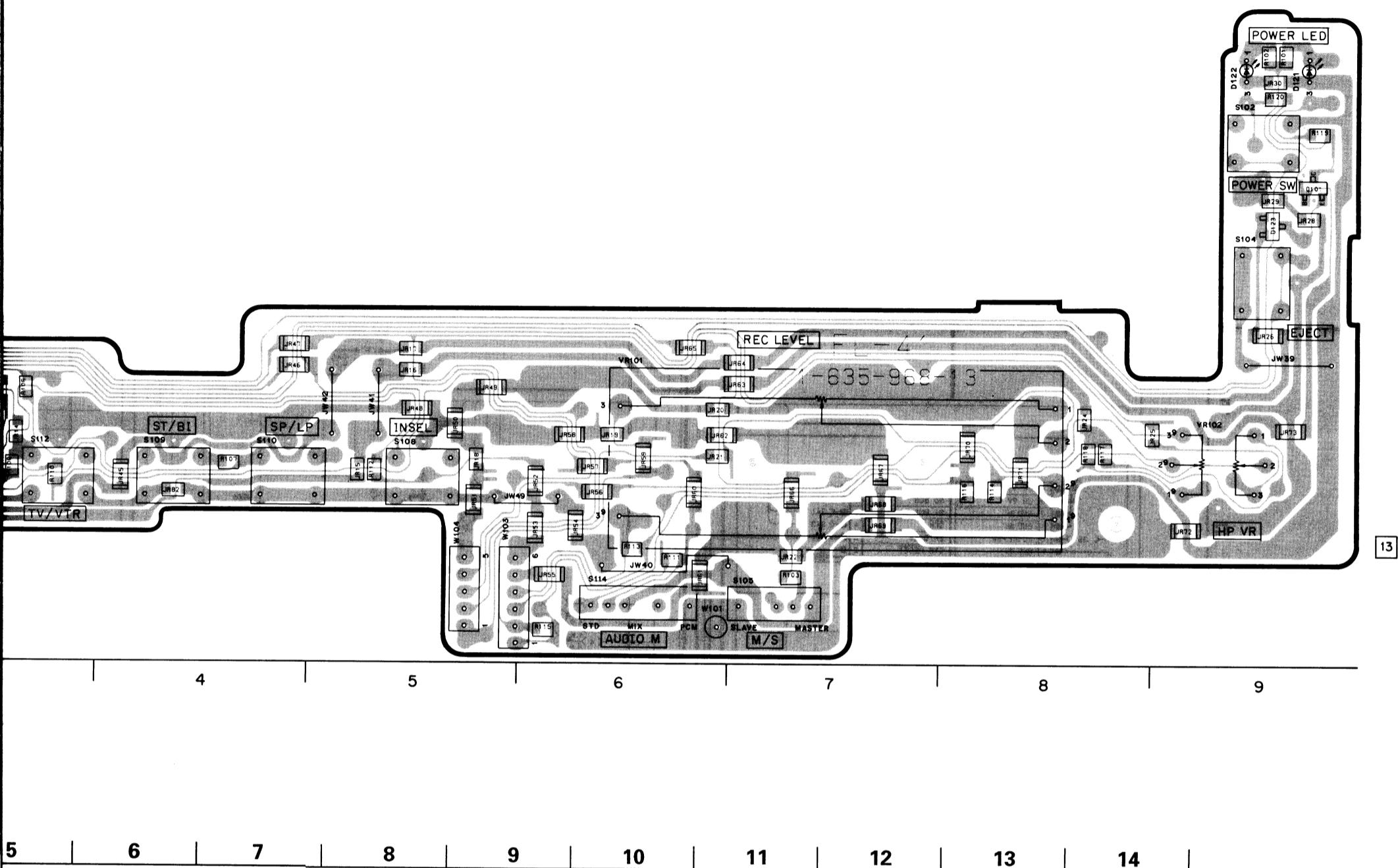
D121 8-719-955-04 DIODE PY5504S-1  
D122 8-719-955-04 DIODE PY5504S-1



**RC-41 (EURO-AV OUTPUT) SCHEMATIC DIAGRAM**  
—Ref. No. RC-41 Board: 7000 series—



arts on the pattern face side seen from  
e pattern face are indicated.  
arts on the parts face side seen from the  
arts face are indicated.



#### SIGNAL PATH

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC			➡	
PB			➡	

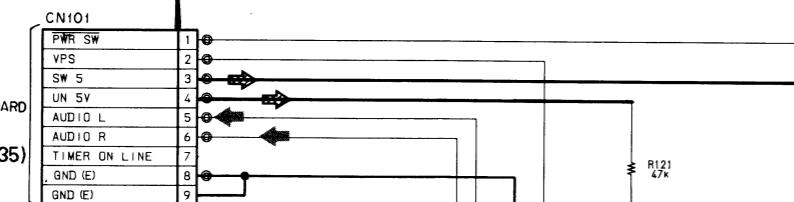
## FL-41 (SELECTOR) SCHEMATIC DIAGRAM

—Ref. No. FL-41 Board: 7000 series—

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

A

## FL-41 BOARD (SELECTOR)

TO FR-60 BOARD  
(See Page 135)  
CN004R121  
47kR130  
0

OFF

ON

S101

POWER SW

S102

POWER LED

D121  
SLR-54MC3D122  
SLR-54MC3R101  
180R102  
180

R

G

R

G

R103  
22k

S104

EJECT

S105

MAS/SLV

R104  
2200

S106

T. REC

R105  
3300

S107

QUICK.T

S108

INSEL

R106  
2200

S109

ST/B1

R107  
2200

S110

SP/LP

R111  
22k

S113

COUNTER.R

R110  
10k

S114

STD  
MIX

AUDIO M

PCM

R112  
10k

S111

T. CHECK

S112

TV/VTR

R113  
6800R114  
6800R115  
6800R116  
68VR101  
10k

REC LEVEL

VR102  
10k

HP VR

R117  
68R118  
68

(See Page 118)

TO ST-41 BOARD  
CN005

W103

6 AUTO ST

5 LEVEL GND

4 LEVEL R IN

3 LEVEL VR R

2 LEVEL L IN

1 LEVEL VR L

(See Page 118)

TO ST-41 BOARD  
CN006

W104

5 HP GND

4 HP R IN

3 HP VR R

2 HP L IN

1 HP VR L

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## • SIGNAL PATH

	VIDEO Signal				AUDIO Signal
	CHROMA	Y	Y/CHROMA		
REC				➡	
PB				➡	

# EV-S550E

**IN-40 (SIGNAL INTERMEDIATION) PRINTED WIRING BOARD**  
—Ref. No. IN-40 Board: 8000 series—

## DIODE

D003 8-719-400-18 DIODE MA152WK

## TRANSISTOR

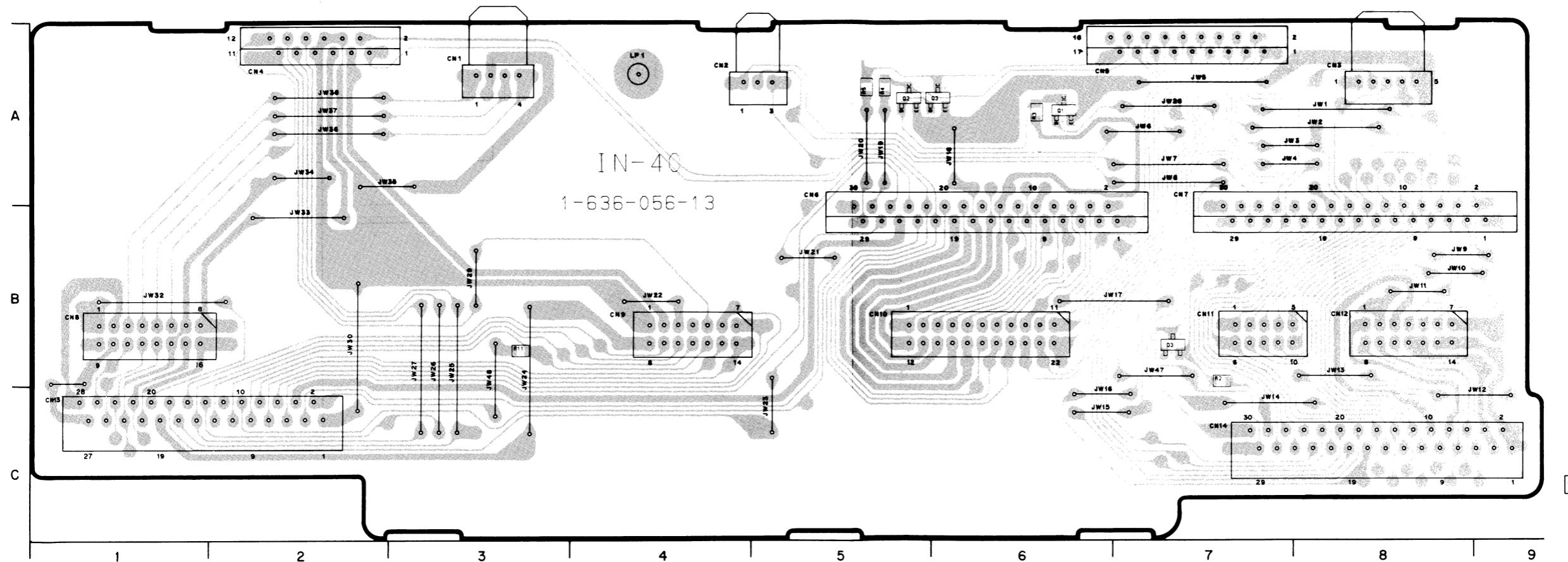
Q001 8-729-901-00 TRANSISTOR DTC124EK  
0002 8-729-901-00 TRANSISTOR DTC124EK  
0003 8-729-901-00 TRANSISTOR DTC124EK

### Caution:

Pattern face side: Parts on the pattern face side seen from the conductor side are indicated.

Parts face side: Parts on the parts face side seen from the component side are indicated.

## IN-40 BOARD (CONDUCTOR SIDE)

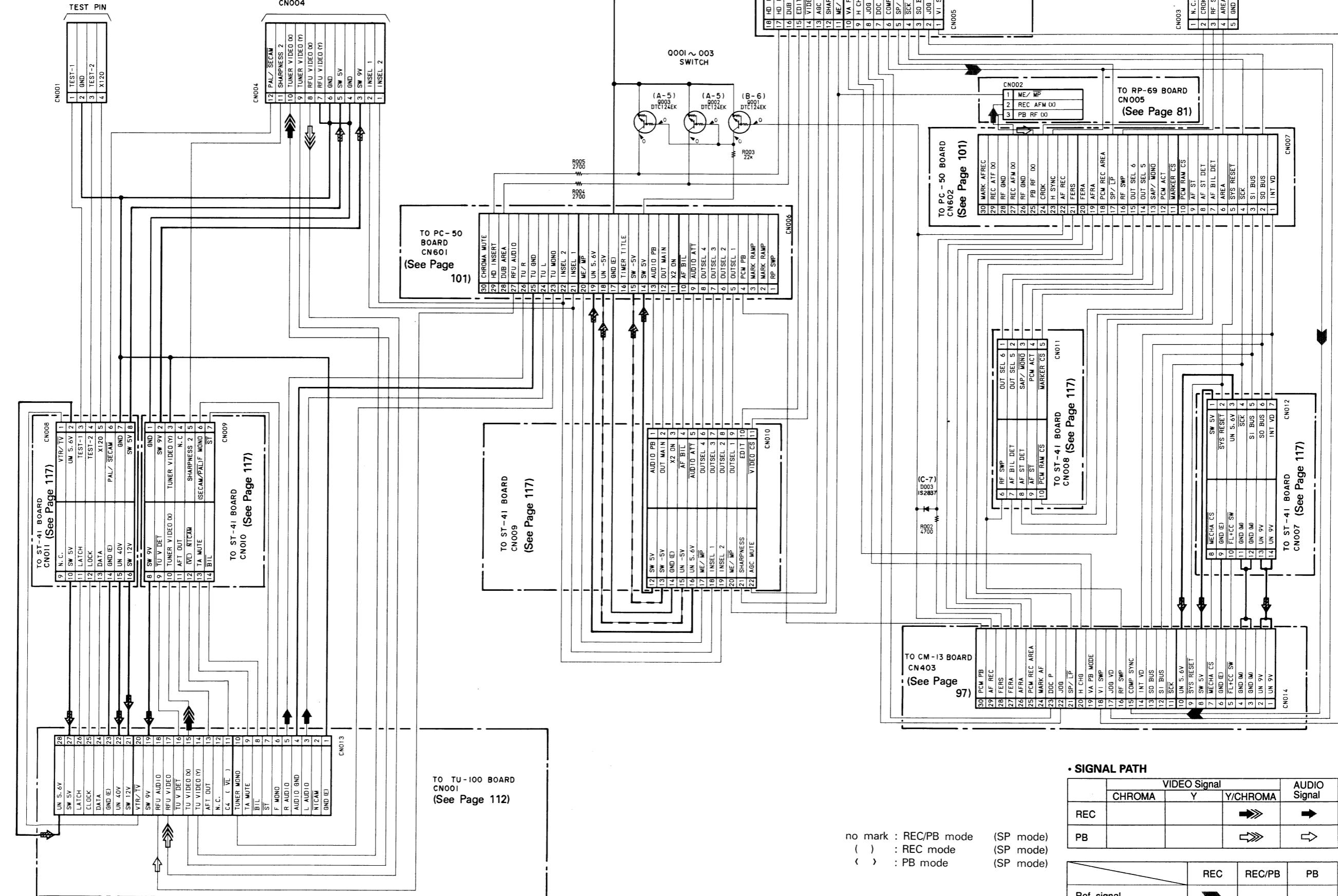


## **IN-40 (SIGNAL INTERMEDIATION) SCHEMATIC DIAGRAM**

—Ref. No. IN-40 Board: 8000 series—

## **IN - 40 BOARD (SIGNAL INTERMEDIATION)**

(See Page 87)  
TO VI-98 BOARD  
CHG 2-1



no mark : REC/PB mode (SP mode)  
 ( ) : REC mode (SP mode)  
 < > : PB mode (SP mode)

- SIGNAL PATH

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC			➡➡	➡
PB			➡➡	➡
Ref. signal		➡➡		

**FR-60 (FL DISPLAY) PRINTED WIRING BOARD**  
—Ref. No. FL-60 Board: 9000 series—

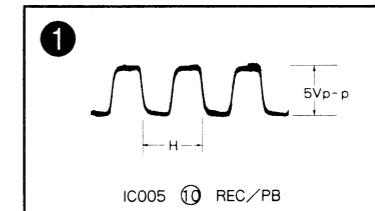
<u>DIODE</u>					
D001	8-719-918-96	DIODE AA3422S	D012	8-719-920-05	DIODE SLP281C-50
D002	8-719-400-18	DIODE MA152WK	D013	8-719-920-05	DIODE SLP281C-50
D003	8-719-301-49	DIODE SEL2810A	D014	8-719-812-32	DIODE TLY123
D004	8-719-400-18	DIODE MA152WK	D015	8-719-920-05	DIODE SLP281C-50
D005	8-719-920-05	DIODE SLP281C-50	D016	8-719-920-05	DIODE SLP281C-50
D006	8-719-400-18	DIODE MA152WK	D017	8-719-301-49	DIODE SEL2810A
D007	8-719-921-01	DIODE EBR5534S	D018	8-719-921-01	DIODE EBR5534S
D008	8-719-400-18	DIODE MA152WK	D020	8-719-918-96	DIODE AA3422S
D010	8-719-400-18	DIODE MA152WK	D021	8-719-812-33	DIODE TLG123A
D011	8-719-921-01	DIODE EBR5534S	D022	8-719-908-54	DIODE SLR-54VC3

IC

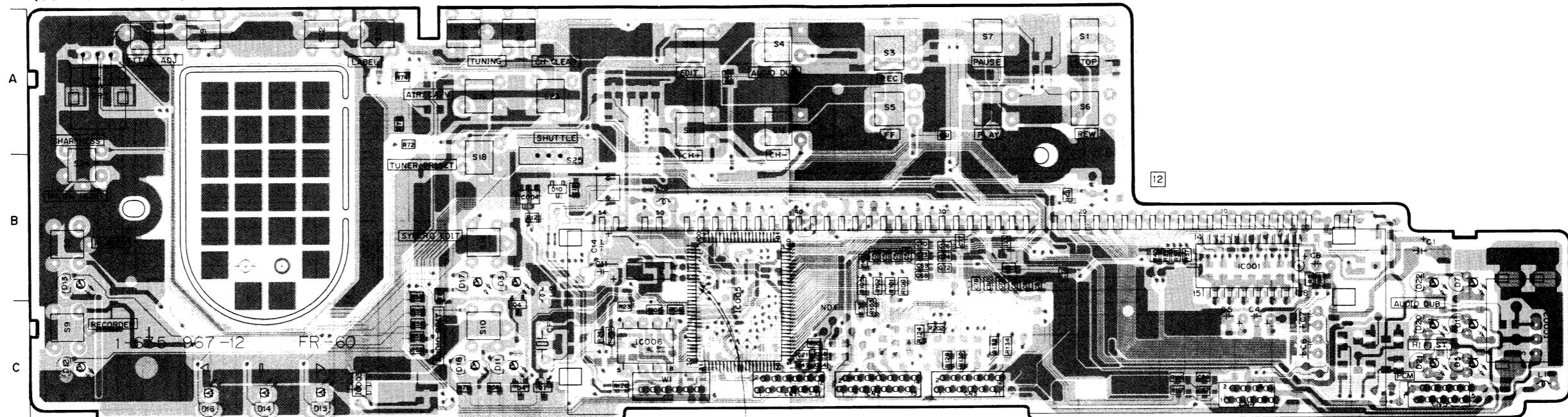
IC001	8-759-998-91	IC BA6800AFVC
IC002	1-466-131-21	IC GP1U52X
IC003	8-759-937-56	IC S-8054ALB-LM-S
IC004	8-759-941-78	IC S-8053ALB
IC005	8-759-502-15	IC MB89793B-GDX451

TRANSISTOR

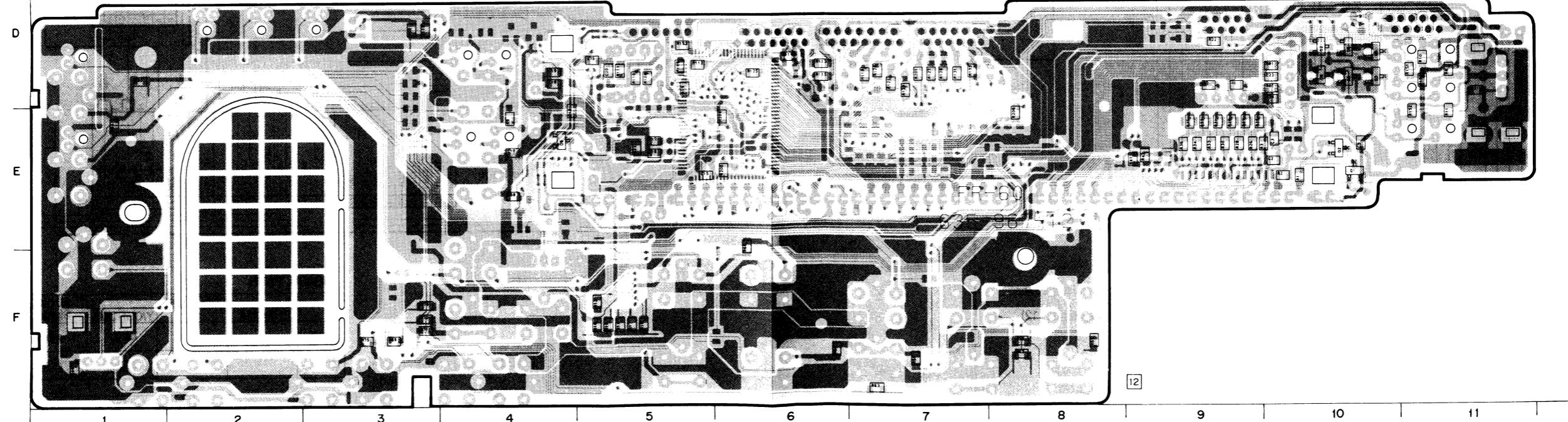
Q001	8-729-901-47	TRANSISTOR DTA143EK
Q002	8-729-901-47	TRANSISTOR DTA143EK
Q003	8-729-923-80	TRANSISTOR DTC143EK
Q004	8-729-923-80	TRANSISTOR DTC143EK
Q005	8-729-923-80	TRANSISTOR DTC143EK
Q006	8-729-923-80	TRANSISTOR DTC143EK
Q007	8-729-901-47	TRANSISTOR DTA143EK

**FR-60 BOARD**

**FR-60** BOARD  
(COMPONENT SIDE)



**FR-60** BOARD  
(CONDUCTOR SIDE)



## Caution:

Pattern face side: Parts on the pattern face side seen from (Conductor Side) the pattern face are indicated.

Parts face side: Parts on the parts face side seen from the (Component side) parts face are indicated.

**FR-60 (FL DISPLAY) SCHEMATIC DIAGRAM**  
—Ref. No. FL-60 Board: 9000 series—

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

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E

F

G

H

I

J

K

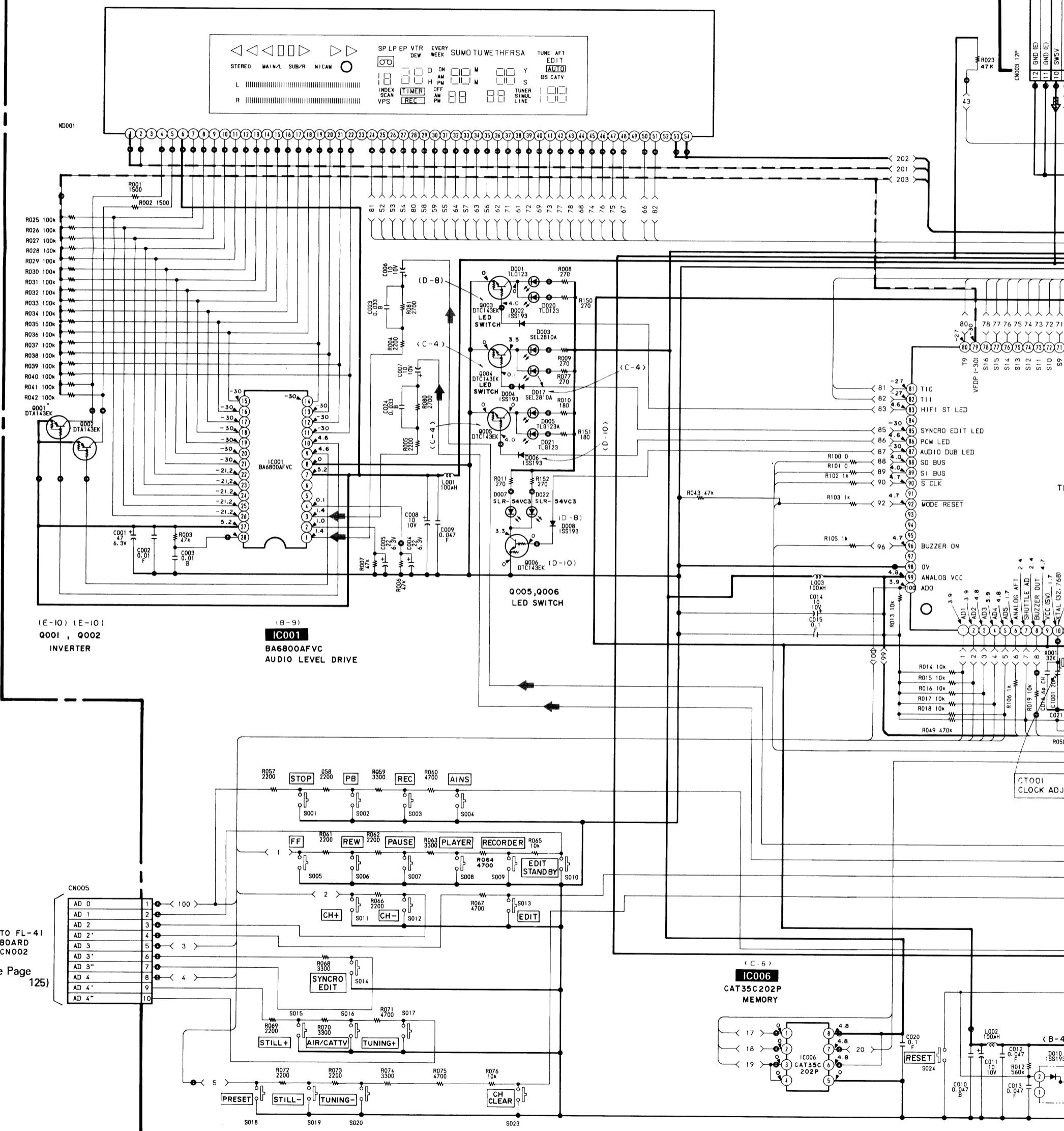
L

M

N

O

**FR-60 BOARD (DISPLAY)**



11 12 13 14 15 16 17 18 19 20 21

(See Page 117)

TO ST-4I BOARD  
CNO01

(See Page 117)

TO ST-4I BOARD  
CNO02

(See Page 117)

TO ST-4I BOARD  
CNO03

(C-6)  
**IC005**  
MB89793B  
TIMER/TUNER CONTROL

CT001  
CLOCK ADJ

(B-4)  
**IC004**  
S8053ALB  
RESET

no mark : REC/PB mode (SP mode)  
 ( ) : REC mode (SP mode)  
 ( ) : PB mode (SP mode)

## • SIGNAL PATH

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC				→
PB				

## 5-3. SEMICONDUCTORS

**BA6800AFVC**  
**CXD1077M**

**CXA1201Q**  
**CXA1227**  
**CXD2106Q**

**CXL1502M**  
**LM358ML**  
 **$\mu$ PC358G2**  
 **$\mu$ PC393G2**  
 **$\mu$ PC4572G2**

**GP1U52X**  
**S-8053ALB-LI**  
**S-8054ALB-LM-S**

**TL431CLP**

**DTA114EK**  
**DTA124EK**  
**DTA143EK**  
**DTA144EK**  
**DTC114TK**  
**DTC124EK**  
**DTC143EK**  
**DTC144EK**  
**2SA1162**  
**2SC1623**  
**2SC2412K-QR**  
**2SC3326N**  
**2SC3395**

**2SC535-C**

**RD9.1M-B1**  
**RD13M-B2**  
**SB05-05CP**

**1T33C-01**

NOTE:  
• -XX, -X means  
may have some  
original one.  
• The construction  
part are in  
number in the

## 6-1. CABIN

**BU3786F**

**CXA1202Q-Z**  
**CXA1449Q**

**CXP80116-803Q**

**MB8464A-15LLPF**

**CAT35C202P**

**CXA1203M**  
**CXA1219M**

**CX20102**

**MC14052BF**  
**MC14538BF**

**2SD774-34**

**RD9.1M-B2**  
**RD9.1M-B3**

**AA3422S**

**CXA1127MTP**  
**LA7451M**

**CXA1237AR**  
**CF79050PV**

**CX20114**

**NJM2234M**

**FMS2**  
**FMS1**

**2SK160-K5**

**1SS226**

**EBR5534S**

**CXA1200BQ**

**CXD1208Q**  
**MB89793B**

**CX20115A**  
**LB1631M**  
**MB3775PF**  
**MC14053BF**

**$\mu$ PC574J**

**2SA1175**  
**2SC2785-HFE**

**E10QS04**

**1SS283**

**SEL2810A**

**2SB1121**

**MA152WK**

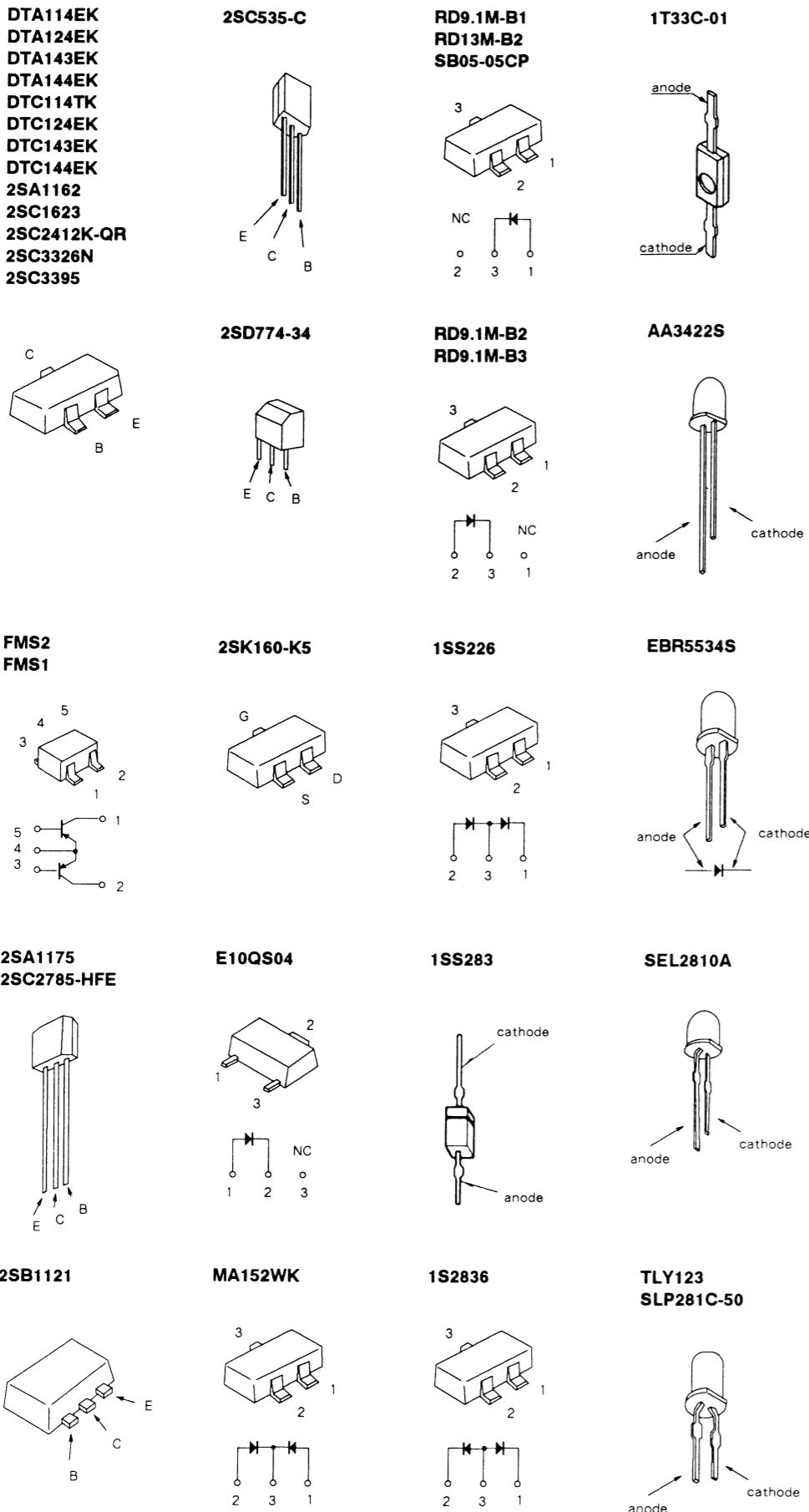
**1S2836**

**TLY123**  
**SLP281C-50**

No.	Part No.
1	X-3749-
2	4-886-8
3	3-731-1
4	*A-7062-
5	3-731-1
6	*A-7062-
7	*1-636-0
8	*A-7062-
9	X-3940-
10	1-238-7
11	3-749-0
12	X-3940-

## SECTION 6

### EXPLODED VIEW



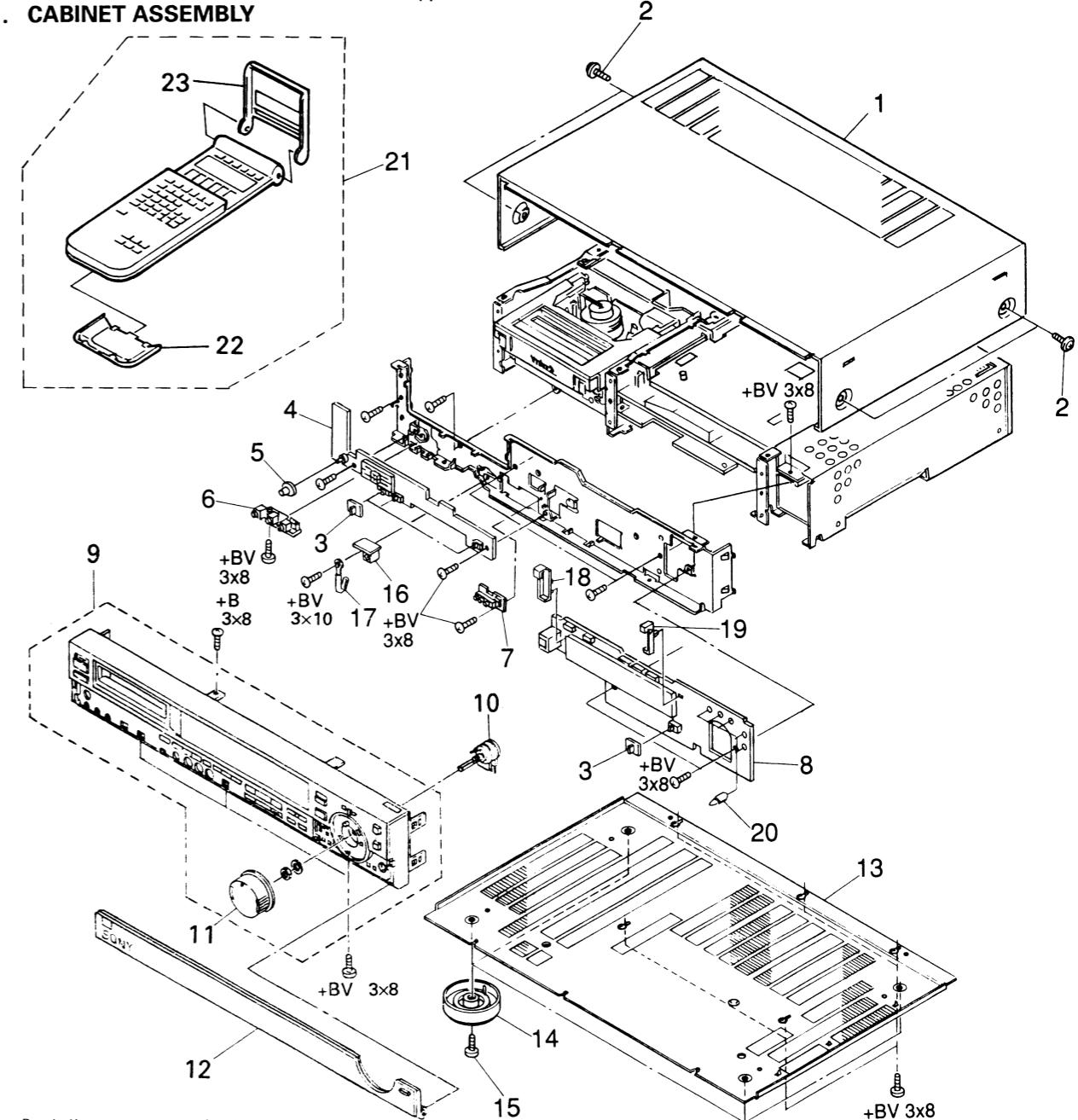
## NOTE:

- XX, -X mean standard parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked \*\* are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

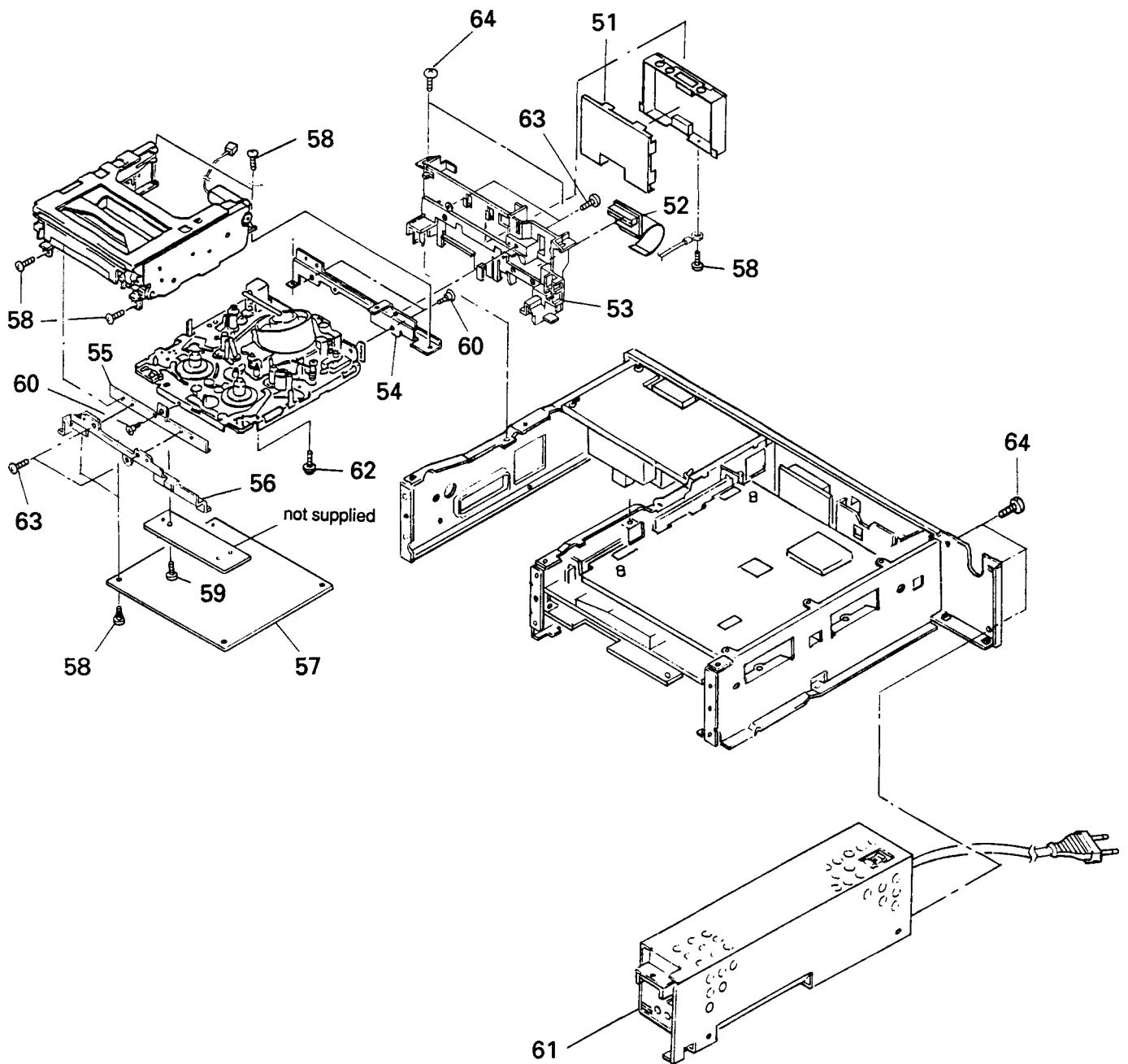
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

## 6-1. CABINET ASSEMBLY



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	X-3749-070-2	CASE ASSY, UPPER		13	*3-742-559-01	PLATE, BOTTOM	
2	4-886-821-01	SCREW, M3 CASE		14	3-744-272-31	FOOT	
3	3-731-108-01	KNOB, SLIDE		15	7-685-871-01	SCREW +BVTT 3X6 (S)	
4	*A-7062-454-A	FL-41 BOARD, COMPLETE		16	*1-636-057-11	DJ-10 BOARD	
5	3-731-111-01	KNOB, VOLUME, MICROPHONE		17	*3-701-822-00	HOLDER, WIRE	
6	*A-7062-530-A	MC-60 BOARD, COMPLETE		18	*3-742-524-11	HOLDER (L), INDICATION TUBE	
7	*1-636-059-11	FJ-11 BOARD		19	*3-749-041-01	HOLDER (R), INDICATION TUBE	
8	*A-7062-455-A	FR-60 BOARD, COMPLETE		20	*3-697-607-01	HOLDER (SU), LED	
9	X-3940-135-1	PANEL ASSY, FRONT		21	1-465-577-11	REMOTE CONTROLLER (RMT-456)	22, 23
10	1-238-738-11	RES, VAR, CARRON 10K		22	2-181-766-01	COVER, BATTERY	
11	3-749-054-01	DIAL		23	2-181-770-01	COVER, TIMER	
12	X-3940-136-1	DOOR ASSY					

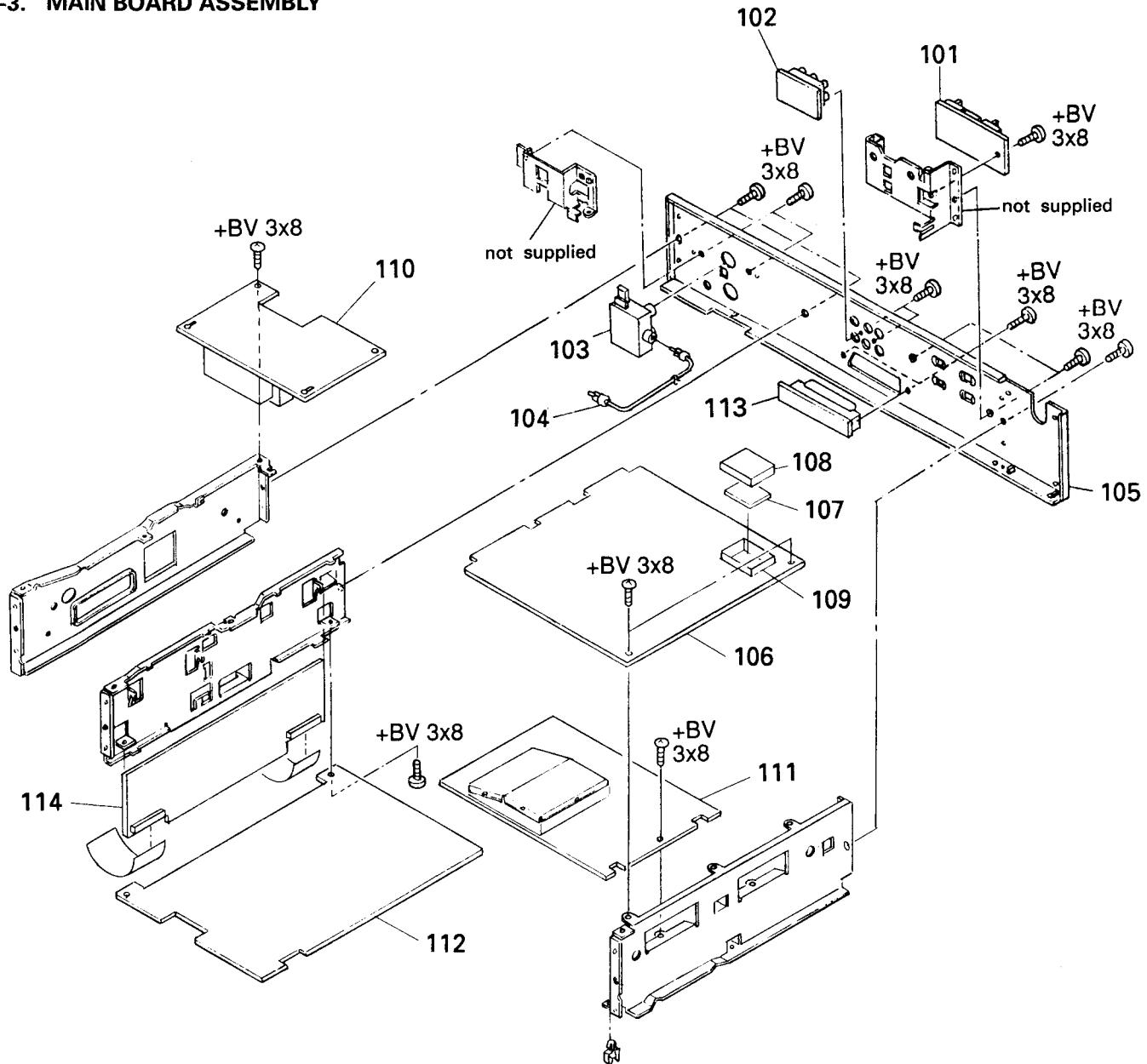
## **6-2. MAIN CHASSIS ASSEMBLY**



The components identified by mark  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety.  
Replace only with part number specified.

<u>No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
51	*A-7062-451-A	RP-69 BOARD, COMPLETE		58	3-732-817-01	SCREW (2X4.5), TAPPING	
52	*1-628-694-21	CC-23 BOARD		59	3-713-790-21	SCREW (M2X6), TAPPING, P3	
53	*3-731-141-01	FRAME (REAR), MD		60	3-732-816-01	SCREW, STEP	
54	*3-732-811-01	BRACKET (REAR)		61	▲ 1-413-591-11	SWITCHING REGULATOR	
55	*3-732-810-02	BRACKET (FRONT)		62	3-703-502-01	SCREW	
56	*3-731-132-01	FRAME (FRONT), MD		63	7-627-853-47	PRECISION SCREW +P 2X4 TYPE 3	
57	*A-7062-452-A	CM-13 BOARD, COMPLETE		64	7-685-646-71	SCREW +BVTP 3X8 TYPE2	

### 6-3. MAIN BOARD ASSEMBLY

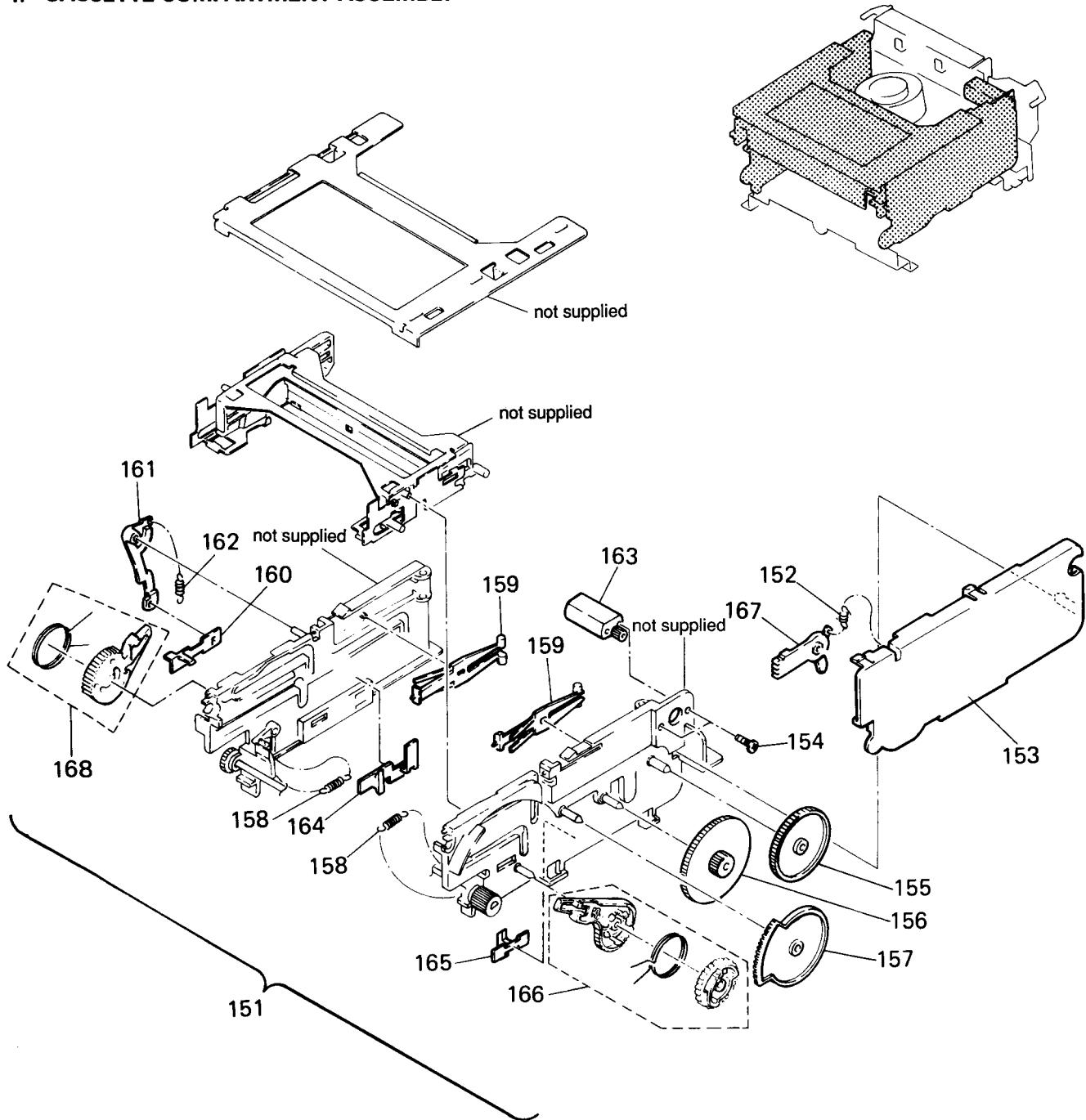


The components identified by mark  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety.  
Replace only with part number specified.

No.	Part No.	Description
101	*A-7062-464-A	RS-54 BOARD, COMPLETE
102	*A-7062-463-A	RJ-20 BOARD, COMPLETE
103 $\triangle$	1-466-328-31	MODULATOR, RF (RFU-2027)
104	1-558-924-41	CABLE, PIN
105	*3-749-055-21	FRAME, REAR
106	*A-7062-453-A	VI-98 BOARD, COMPLETE
107	*A-7062-465-A	CC-56 BOARD, COMPLETE
108	*3-731-165-01	LID, SHILED CASE, CCD

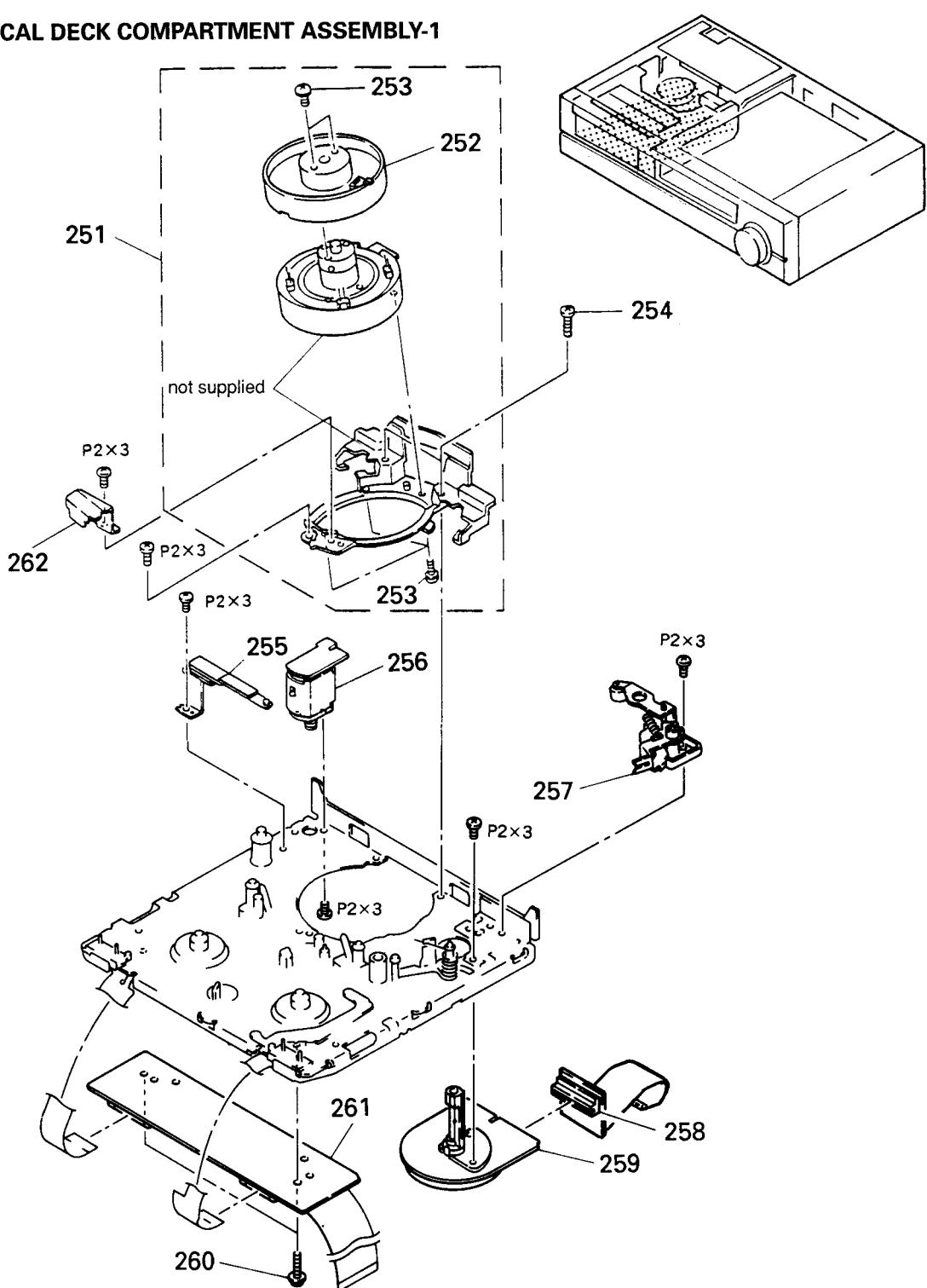
No.	Part No.	Description	Remark
109	*3-731-164-01	CASE (MAIN), SHILED, CCD	
110	*A-7062-456-A	TU-100 BOARD, COMPLETE	
111	*A-7062-457-A	PC-50 BOARD, COMPLETE	
112	*A-7062-458-A	ST-41 BOARD, COMPLETE	
113	*1-636-959-11	RC-41 BOARD	
114	*A-7062-462-A	IN-40 BOARD, COMPLETE	

## **6-4. CASSETTE COMPARTMENT ASSEMBLY**



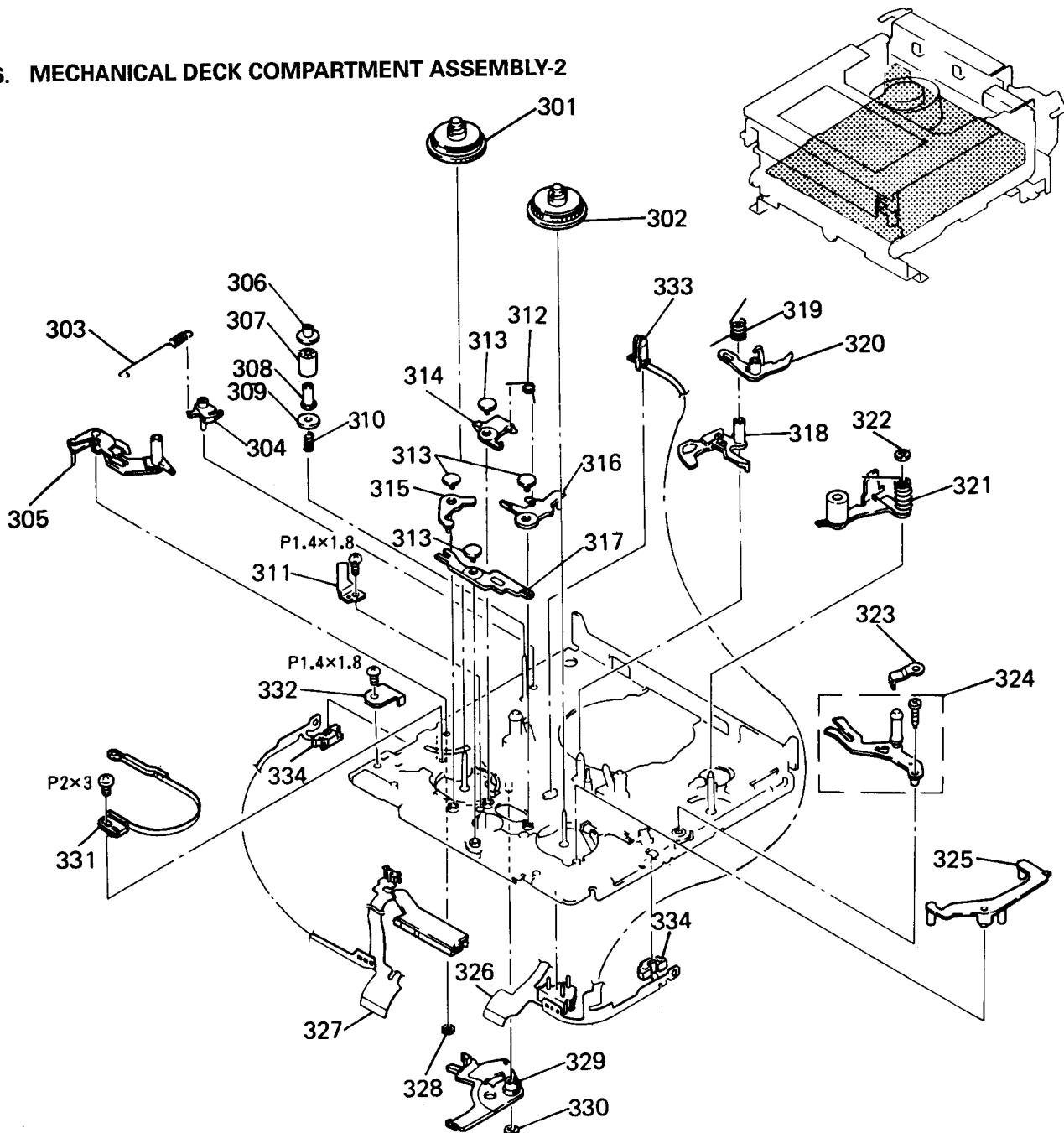
<u>No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
151	A-7090-892-A	CASSETTE COMPARTMENT ASSY, FL	152-168	160	3-731-189-01	SLIDER, LOCK	
152	3-731-175-02	SPRING, TENSION		161	3-731-188-01	ARM LOCK, DRIVING	
153	3-732-804-03	COVER, GEAR		162	3-731-174-01	SPRING, TENSION	
154	3-730-141-01	SCREW (PSW) (2X4)		163	X-3731-108-1	MOTOR ASSY	
155	3-731-182-01	GEAR (B), DECELERATION		164	X-3726-867-1	PRISM (LEFT) ASSY	
156	3-731-181-01	GEAR (A), DECELERATION		165	X-3726-866-1	PRISM (RIGHT) ASSY	
157	3-731-192-01	GEAR, MIDWAY		166	X-3731-109-2	ARM (RIGHT) ASSY, DRIVING	
158	3-731-176-02	SPRING, TENSION		167	3-731-185-01	LINK, SWITCHING, DOOR	
159	3-731-184-02	HOLDER LOCK		168	X-3731-111-1	ARM (LEFT) ASSY, DRIVING	

## 6-5. MECHANICAL DECK COMPARTMENT ASSEMBLY-1



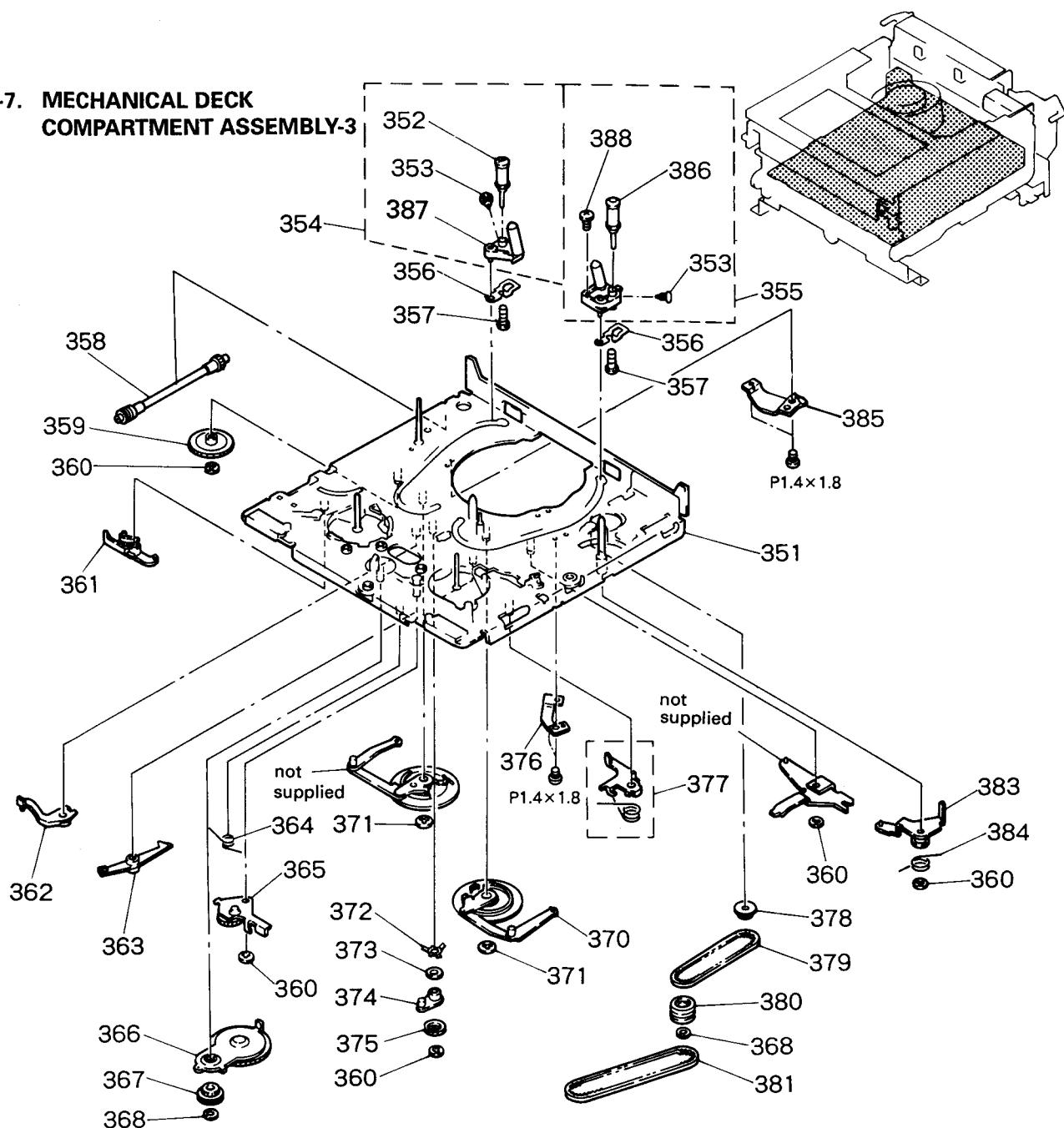
No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
251	A-7048-424-A	DRUM ASSY (DGU-72A-R)	252, 253	257	A-7040-161-B	ROLLER BLOCK ASSY, HC	
252	A-7049-355-A	DRUM ASSY, UPPER, ROTARY (DGR-72-R)		258	*1-628-694-21	CC-23 BOARD	
253	3-686-493-01	SCREW (M2X5)		259	8-835-331-01	MOTOR, DC U-22A	
254	3-736-406-01	SCREW (3) (M2X10)		260	3-732-817-01	SCREW (2X4.5), TAPPING	
255	X-3728-864-1	GROUND ASSY, SHAFT		261	*1-628-908-11	UC-3 BOARD	
256	A-7040-160-A	MOTOR ASSY, THREADING		262	3-728-868-01	GUARD, GUIDE	

## **6-6. MECHANICAL DECK COMPARTMENT ASSEMBLY-2**



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
301	X-3728-851-1	TABLE ASSY, REEL, S		318	3-728-875-01	STOPPER, RK	
302	X-3728-855-1	TABLE ASSY, REEL, T		319	3-726-864-01	SPRING (RK), TORSION	
303	3-736-414-01	SPRING, TENSION		320	3-728-852-02	ARM, RK STOPPER	
304	3-728-855-03	ARM, ADJUSTMENT		321	A-7040-219-A	ARM BLOCK ASSY, PINCH	
305	X-3728-867-1	ARM ASSY (S), TENSION REGULATOR		322	3-669-465-00	WASHER (1.5), STOPPER	
306	3-726-884-01	FLANGE, UPPER, TG2		323	3-728-808-01	SPRING, LEAF	
307	3-726-883-01	ROLLER, TG2		324	X-3728-869-1	ARM ASSY, TG7	
308	3-726-885-01	SLEEVE, TG2		325	3-728-848-01	ARM, LB RELEASE	
309	3-726-882-02	FLANGE, LOWER, TG2		326	1-628-061-12	FP-90 FLEXIBLE BOARD	
310	3-726-886-01	SPRING, COMPRESSION		327	1-628-060-12	FP-89 FLEXIBLE BOARD	
311	3-726-848-01	RETAINER, TL		328	3-321-393-11	WASHER, STOPPER	
312	3-726-866-01	SPRING (ST), TORSION		329	X-3726-806-2	LEVER ASSY, SW	
313	3-726-858-01	PIN, SHAFT RETAINER		330	3-726-829-01	WASHER, STOPPER	
314	3-728-849-01	BRAKE, S		331	X-3728-859-1	BAND ASSY, TENSION REGULATOR	
315	3-726-852-01	BRAKE, LB		332	3-730-125-01	RETAINER, SW	
316	3-728-850-01	BRAKE, T		333	3-728-837-01	HOLDER, LED	
317	3-726-853-01	LEVER, LB		334	3-728-869-02	HOLDER, SENSOR	

## **6-7. MECHANICAL DECK COMPARTMENT ASSEMBLY-3**



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark	
351	*X-3749-038-1	CHASSIS ASSY, MECHANICAL		370	X-3728-843-1	GEAR (RIGHT) ASSY, DRIVE		
352	X-3728-810-1	ROLLER ASSY (U) (PLATING), GUIDE		371	3-669-465-00	WASHER (1.5), STOPPER		
353	3-726-822-01	SCREW (M1.4X2) (STEP), HEAD		372	3-726-867-01	SPRING, LEAF		
354	A-7040-184-A	COASTER (LEFT) BLOCK ASSY-ND		373	3-701-436-21	WASHER, POLYETHYLENE		
			352, 353, 387	374	3-726-857-03	ARM, UL		
355	A-7040-217-A	COASTER (RIGHT) BLOCK ASSY (NIP)		375	3-726-856-04	GEAR, UL		
			353, 386-388	376	*3-726-805-01	REINFORCEMENT (TT)		
356	3-736-485-01	SPRING, LEAF, COSTER		377	X-3726-808-2	BRAKE ASSY, TS		
357	3-726-830-01	SCREW (M1.4X4) (THREE LOCK)		378	X-3726-805-1	GEAR ASSY, JOINT		
358	X-3728-868-1	WORM ASSY		379	3-728-866-11	BELT (S), TIMING		
359	3-744-109-01	GEAR, WHEEL		380	X-3726-813-1	PULLEY (UPPER) ASSY, MIDWAY		
360	3-726-829-01	WASHER, STOPPER		381	3-741-197-01	BELT (L), TIMING		
361	3-728-842-01	LEVER, EJECT		382	X-3726-824-1	ARM ASSY, PINCH SUB		
362	3-728-851-01	BRAKE, UL		383	3-726-895-01	SPRING		
363	3-726-854-01	ARM, BRAKE RELEASE		384	X-3726-841-1	REINFORCEMENT (SS) ASSY		
364	3-726-865-01	SPRING (LB), TORSION		385	X-3726-820-1	ROLLER ASSY (U), GUIDE		
365	A-7040-130-A	GEAR BLOCK ASSY, LB		386	387	X-3726-818-1	COASTER (LEFT) ASSY	
366	X-3728-866-1	GEAR ASSY, RK		388	3-736-473-01	SCREW (M2X0.25) (THREE LOCK)		
367	X-3728-858-1	GEAR ASSY, RC						
368	3-533-073-01	WASHER						

FP-89

FP-90

## **SECTION 7**

### **ELECTRICAL PARTS LIST**

RP-69

**NOTE:**

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
  - -XX, -X mean standardized parts, so they may have some difference from the original one.
  - **RESISTORS**  
All resistors are in ohms  
METAL : Metal-film resistor  
METAL OXIDE : Metal Oxide-film resistor  
F : nonflammable
  - Items marked \*\* are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
  - **SEMICONDUCTORS**  
In each case, U: $\mu$ , for example:  
UA...:  $\mu$ A..., UPA...:  $\mu$ PA...,  
UPB...:  $\mu$ PB..., UPC...:  $\mu$ PC...,  
UPD...:  $\mu$ PD...
  - **CAPACITORS**  
MF :  $\mu$ F, PF :  $\mu\mu$ F
  - **COILS**  
MMH : mH, UH :  $\mu$ H

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark		
	1-628-060-12	FP-89 FLEXIBLE BOARD (Ref.No 3,000 Series)		C053	1-164-633-11	CERAMIC CHIP 0.1MF	10% 25V		
		*****		C054	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V		
	1-571-099-11	SWITCH		C055	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V		
	1-572-253-11	SWITCH, SLIDE		C056	1-164-232-11	CERAMIC CHIP 0.01MF	50V		
	3-728-869-02	HOLDER, SENSOR		C059	1-124-778-00	ELECT CHIP 22MF	20% 6.3V		
		DIODE		C060	1-163-038-00	CERAMIC CHIP 0.1MF	25V		
D301	8-719-820-44	PHOTO COUPLER TLP907-0		C061	1-164-232-11	CERAMIC CHIP 0.01MF	50V		
		TRANSISTOR		C062	1-164-232-11	CERAMIC CHIP 0.01MF	50V		
Q301	8-729-906-48	TRANSISTOR EE-TP109		C063	1-164-232-11	CERAMIC CHIP 0.01MF	50V		
	*****	*****		C073	1-163-038-00	CERAMIC CHIP 0.1MF	25V		
	1-628-061-12	FP-90 FLEXIBLE BOARD (Ref.No 3,000 Series)		C074	1-164-232-11	CERAMIC CHIP 0.01MF	50V		
		*****		C075	1-163-117-00	CERAMIC CHIP 100PF	5%		
	1-572-298-11	SWITCH, PUSH		C076	1-163-115-00	CERAMIC CHIP 82PF	5%		
	3-728-837-01	HOLDER, LED		C077	1-163-251-11	CERAMIC CHIP 100PF	5%		
	3-728-869-02	HOLDER, SENSOR		C078	1-163-121-00	CERAMIC CHIP 150PF	5%		
		DIODE		C080	1-124-778-00	ELECT CHIP 22MF	20% 6.3V		
D302	8-719-820-44	PHOTO COUPLER TLP907-0		C081	1-163-038-00	CERAMIC CHIP 0.1MF	25V		
D303	8-719-940-81	DIODE GL452S		C083	1-126-193-11	ELECT CHIP 1MF	20% 50V		
		TRANSISTOR		C084	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V		
Q302	8-729-906-48	TRANSISTOR EE-TP109		C088	1-124-778-00	ELECT CHIP 22MF	20% 6.3V		
	*****	*****		C201	1-163-035-00	CERAMIC CHIP 0.047MF	50V		
		RP-69 BOARD, COMPLETE (Ref.No 1,000 Series)		C202	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V		
		*****		C203	1-126-204-11	ELECT CHIP 47MF	20% 16V		
		CAPACITOR		C204	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V		
		*****		C205	1-163-035-00	CERAMIC CHIP 0.047MF	50V		
		C031	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C206	1-124-778-00	ELECT CHIP 22MF	20% 6.3V
		C032	1-124-778-00	ELECT CHIP 22MF	20% 6.3V	C207	1-163-035-00	CERAMIC CHIP 0.047MF	50V
		C033	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C208	1-163-095-00	CERAMIC CHIP 12PF	5% 50V
		C034	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C209	1-124-779-00	ELECT CHIP 10MF	20% 16V
		C035	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C210	1-124-778-00	ELECT CHIP 22MF	20% 6.3V
		C036	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C211	1-163-035-00	CERAMIC CHIP 0.047MF	50V
		C037	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	C212	1-164-232-11	CERAMIC CHIP 0.01MF	50V
		C038	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C213	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
		C039	1-163-137-00	CERAMIC CHIP 680PF	5% 50V	C214	1-163-035-00	CERAMIC CHIP 0.047MF	50V
		C040	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C215	1-163-035-00	CERAMIC CHIP 0.047MF	50V
				C217	1-164-232-11	CERAMIC CHIP 0.01MF	50V		
				C218	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V		
				C219	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V		
				C220	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V		
				C221	1-126-205-11	ELECT CHIP 47MF	20% 6.3V		
				C224	1-163-109-00	CERAMIC CHIP 47PF	5% 50V		
						CONNECTOR			
		C041	1-163-109-00	CERAMIC CHIP 47PF	5% 50V	CN001	1-565-073-11	SOCKET, CONNECTOR 16P	
		C042	1-163-038-00	CERAMIC CHIP 0.1MF	25V	CN002	1-506-476-11	PIN, CONNECTOR 11P	
		C043	1-124-778-00	ELECT CHIP 22MF	20% 6.3V	CN004	*1-564-006-21	PIN, CONNECTOR 7P	
		C044	1-164-232-11	CERAMIC CHIP 0.01MF	50V	CN005	1-506-471-11	PIN, CONNECTOR 6P	
		C045	1-164-232-11	CERAMIC CHIP 0.01MF	50V	CN006	1-506-484-11	PIN, CONNECTOR 5P	
						IC			
		C046	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	IC002	8-752-032-35	IC CXA1202Q-Z	
		C047	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V	IC003	8-759-710-09	IC NJM2233AM	
		C050	1-164-633-11	CERAMIC CHIP 0.1MF	10% 25V				
		C051	1-164-633-11	CERAMIC CHIP 0.1MF	10% 25V				
		C052	1-164-633-11	CERAMIC CHIP 0.1MF	10% 25V				

# RP-69

<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>	<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>	
<u>COIL</u>												
L003	1-408-777-00	INDUCTOR CHIP	10UH			R063	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
L004	1-408-793-21	INDUCTOR CHIP	220UH			R064	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
L006	1-408-793-21	INDUCTOR CHIP	220UH			R065	1-216-033-00	METAL GLAZE	220	5%	1/10W	
L007	1-408-777-00	INDUCTOR CHIP	10UH			R066	1-216-033-00	METAL GLAZE	220	5%	1/10W	
L009	1-408-781-00	INDUCTOR CHIP	22UH			R067	1-216-017-00	METAL GLAZE	47	5%	1/10W	
L201	1-410-735-21	INDUCTOR CHIP	0.33UH			R068	1-216-001-00	METAL GLAZE	10	5%	1/10W	
L202	1-408-781-00	INDUCTOR CHIP	22UH			R069	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
L203	1-408-781-00	INDUCTOR CHIP	22UH			R070	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
L204	1-408-781-00	INDUCTOR CHIP	22UH			R071	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
						R090	1-216-304-11	METAL GLAZE	3.3	5%	1/10W	
<u>TRANSISTOR</u>												
Q006	8-729-901-01	TRANSISTOR DTC144EK				R201	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
Q007	8-729-901-01	TRANSISTOR DTC144EK				R202	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
Q011	8-729-901-06	TRANSISTOR DTA144EK				R203	1-216-041-00	METAL GLAZE	470	5%	1/10W	
Q015	8-729-216-22	TRANSISTOR 2SA1162				R204	1-216-025-00	METAL GLAZE	100	5%	1/10W	
Q016	8-729-119-76	TRANSISTOR 2SA1175-HFE				R205	1-216-029-00	METAL GLAZE	150	5%	1/10W	
Q017	8-729-216-22	TRANSISTOR 2SA1162				R206	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
Q201	8-729-202-38	TRANSISTOR 2SC3326N				R207	1-216-041-00	METAL GLAZE	470	5%	1/10W	
Q202	8-729-353-53	TRANSISTOR 2SC535-C				R208	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
Q203	8-729-100-66	TRANSISTOR 2SC1623				R209	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
Q204	8-729-100-66	TRANSISTOR 2SC1623				R210	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
Q205	8-729-100-66	TRANSISTOR 2SC1623				R211	1-216-047-00	METAL GLAZE	820	5%	1/10W	
Q206	8-729-100-66	TRANSISTOR 2SC1623				R212	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
Q207	8-729-901-05	TRANSISTOR DTA124EK				R213	1-216-021-00	METAL GLAZE	68	5%	1/10W	
Q208	8-729-901-00	TRANSISTOR DTC124EK				R214	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
Q209	8-729-901-04	TRANSISTOR DTA114EK				R215	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
Q210	8-729-100-66	TRANSISTOR 2SC1623				R216	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
Q211	8-729-100-66	TRANSISTOR 2SC1623				R217	1-216-047-00	METAL GLAZE	820	5%	1/10W	
Q212	8-729-100-66	TRANSISTOR 2SC1623				R218	1-216-041-00	METAL GLAZE	470	5%	1/10W	
						R219	1-216-039-00	METAL GLAZE	390	5%	1/10W	
						R220	1-216-041-00	METAL GLAZE	470	5%	1/10W	
						R221	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
						R222	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
						R223	1-216-047-00	METAL GLAZE	820	5%	1/10W	
						R224	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
						R225	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
						R226	1-216-295-00	METAL GLAZE	0	5%	1/10W	
						R228	1-216-047-00	METAL GLAZE	820	5%	1/10W	
						R231	1-216-041-00	METAL GLAZE	470	5%	1/10W	
						R233	1-216-295-00	METAL GLAZE	0	5%	1/10W	
						R235	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
						R236	1-216-041-00	METAL GLAZE	470	5%	1/10W	
						R237	1-216-009-00	METAL GLAZE	22	5%	1/10W	
						R238	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
<u>VARIABLE RESISTOR</u>												
							RV003	1-230-498-11	RES, ADJ, CARBON	47K		
							RV004	1-230-498-11	RES, ADJ, CARBON	47K		
							RV201	1-230-496-11	RES, ADJ, CARBON	10K		
*****												

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
*A-7062-452-A	CM-13 BOARD, COMPLETE (Ref.No 3,000 Series)	*****		C325	1-163-035-00	CERAMIC CHIP 0.047MF	50V
1-574-420-11	WIRE, FLAT TYPE 30P			C326	1-164-232-11	CERAMIC CHIP 0.01MF	50V
		CAPACITOR		C327	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C201	1-126-163-11	ELECT 4.7MF	20%	C328	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C202	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C329	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C203	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C330	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C204	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C331	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C205	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C332	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C206	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C333	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C207	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C334	1-126-301-11	ELECT 1MF	20% 50V
C208	1-126-157-11	ELECT 10MF	20%	C337	1-124-257-00	ELECT 2.2MF	20% 50V
C209	1-126-301-11	ELECT 1MF	20%	C338	1-136-017-00	CERAMIC CHIP 0.0047MF	50V
C210	1-126-157-11	ELECT 10MF	20%	C339	1-136-017-00	CERAMIC CHIP 0.0047MF	50V
C211	1-126-162-11	ELECT 3.3MF	20%	C401	1-163-095-00	CERAMIC CHIP 12PF	5% 50V
C212	1-126-301-11	ELECT 1MF	20%	C402	1-163-095-00	CERAMIC CHIP 12PF	5% 50V
C213	1-126-301-11	ELECT 1MF	20%	C403	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C214	1-126-157-11	ELECT 10MF	20%	C404	1-126-154-11	ELECT 47MF	20% 6.3V
C215	1-126-157-11	ELECT 10MF	20%	C405	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C216	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C406	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C217	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C409	1-126-154-11	ELECT 47MF	20% 6.3V
C218	1-126-157-11	ELECT 10MF	20%	C410	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C219	1-126-301-11	ELECT 1MF	20%	C411	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C220	1-124-638-11	ELECT 22MF	20%	C412	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C221	1-127-539-11	ELECT(SOLID) 1MF	20%	C413	1-126-154-11	ELECT 47MF	20% 6.3V
C223	1-163-077-00	CERAMIC CHIP 0.1MF	10%	C414	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C224	1-135-180-21	TANTAL. CHIP 3.3MF	20%	C501	1-130-495-00	MYLAR 0.1MF	5% 50V
C301	1-126-157-11	ELECT 10MF	20%	C502	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V
C302	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C503	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C303	1-126-157-11	ELECT 10MF	20%	C504	1-163-019-00	CERAMIC CHIP 0.0068MF	10% 50V
C304	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C505	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C305	1-163-009-11	CERAMIC CHIP 0.001MF	50V	C506	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C306	1-163-009-11	CERAMIC CHIP 0.001MF	50V	C507	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C307	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C508	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C308	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C509	1-163-123-00	CERAMIC CHIP 180PF	5% 50V
C309	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C510	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C310	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	C511	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C311	1-164-182-11	CERAMIC CHIP 0.0033MF	10%	C512	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C312	1-163-129-00	CERAMIC CHIP 330PF	5%	C513	1-127-491-00	ELECT(SOLID) 22MF	20% 10V
C313	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C514	1-124-589-11	ELECT 47MF	20% 16V
C314	1-163-809-11	CERAMIC CHIP 0.047MF	10%	C515	1-127-499-00	ELECT(SOLID) 22MF	20% 16V
C315	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C516	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C316	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C517	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C317	1-163-009-11	CERAMIC CHIP 0.001MF	10%	C518	1-127-491-00	ELECT(SOLID) 22MF	20% 10V
C318	1-163-105-00	CERAMIC CHIP 33PF	5%	C520	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C319	1-163-105-00	CERAMIC CHIP 33PF	5%	CN201	*1-566-183-61	PIN, CONNECTOR (PC BOARD) 4P	
C320	1-163-005-11	CERAMIC CHIP 470PF	10%	CN202	*1-566-183-21	PIN, CONNECTOR (PC BOARD) 4P	
C321	1-163-009-11	CERAMIC CHIP 0.001MF	10%	CN203	1-574-346-11	CONNECTOR, FPC/FFC 15P	
C322	1-163-111-00	CERAMIC CHIP 56PF	5%	CN204	1-506-482-11	PIN, CONNECTOR 3P	
C323	1-163-011-11	CERAMIC CHIP 0.0015MF	10%	CN401	1-506-490-21	PIN, CONNECTOR 11P	
C324	1-163-101-00	CERAMIC CHIP 22PF	5%	CN403	*1-563-633-11	CONNECTOR, FLEXIBLE 30P	
			50V	CN405	1-574-347-11	CONNECTOR, FPC/FFC 18P	

When indicating parts by reference number, please include the board name.

# CM-13

<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
CN406	*1-566-181-61	PIN, CONNECTOR (PC BOARD) 2P		Q308	8-729-901-01	TRANSISTOR DTC144EK	
CN407	*1-566-181-21	PIN, CONNECTOR (PC BOARD) 2P		Q309	8-729-901-01	TRANSISTOR DTC144EK	
		<u>DIODE</u>		Q403	8-729-901-06	TRANSISTOR DTA144EK	
D301	8-719-400-18	DIODE MA152WK		Q404	8-729-901-06	TRANSISTOR DTA144EK	
D401	8-719-400-18	DIODE MA152WK		Q407	8-729-920-74	TRANSISTOR 2SC2412K-QR	
D405	8-719-104-34	DIODE 1S2836		Q408	8-729-901-01	TRANSISTOR DTC144EK	
D406	8-719-104-34	DIODE 1S2836		Q501	8-729-901-01	TRANSISTOR DTC144EK	
D407	8-719-104-34	DIODE 1S2836		Q502	8-729-100-66	TRANSISTOR 2SC1623	
D408	8-719-104-34	DIODE 1S2836		Q503	8-729-805-25	TRANSISTOR 2SB1121	
D409	8-719-200-36	DIODE E10QSO		Q504	8-729-100-66	TRANSISTOR 2SC1623	
D410	8-719-200-36	DIODE E10QSO		Q505	8-729-805-25	TRANSISTOR 2SB1121	
D501	8-719-938-75	DIODE SB05-05CP		Q506	8-729-901-01	TRANSISTOR DTC144EK	
D502	8-719-938-75	DIODE SB05-05CP		Q507	8-729-901-06	TRANSISTOR DTA144EK	
D503	8-719-104-34	DIODE 1S2836		Q508	8-729-901-01	TRANSISTOR DTC144EK	
		<u>FERRITE BEAD</u>		Q509	8-729-920-74	TRANSISTOR 2SC2412K-QR	
FB401	1-543-256-11	BEAD, FERRITE		Q510	8-729-920-74	TRANSISTOR 2SC2412K-QR	
FB402	1-543-256-11	BEAD, FERRITE				<u>RESISTOR</u>	
		<u>IC</u>		R101	1-216-296-00	METAL GLAZE 0	5% 1/8W
IC201	8-759-107-68	IC CX20115A		R201	1-216-113-00	METAL GLAZE 470K	5% 1/10W
IC202	8-759-206-24	IC CX20114		R202	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
IC203	8-759-805-06	IC CXA1127M		R203	1-216-081-00	METAL GLAZE 22K	5% 1/10W
IC301	8-752-050-54	IC CXA1449Q		R204	1-216-081-00	METAL GLAZE 22K	5% 1/10W
IC302	8-759-013-22	IC LM358MR		R205	1-216-093-00	METAL GLAZE 68K	5% 1/10W
IC401	8-752-815-05	IC CXP80116-803Q		R206	1-216-089-00	METAL GLAZE 47K	5% 1/10W
IC402	8-759-978-07	IC BU-3786F		R209	1-216-101-00	METAL GLAZE 150K	5% 1/10W
IC403	8-759-804-72	IC LB1631M		R210	1-216-081-00	METAL GLAZE 22K	5% 1/10W
IC501	8-759-013-22	IC LM358MR		R211	1-216-073-00	METAL GLAZE 10K	5% 1/10W
IC502	8-759-945-17	IC MB3775PF		R212	1-216-049-00	METAL GLAZE 1K	5% 1/10W
		<u>COIL</u>		R213	1-216-045-00	METAL GLAZE 680	5% 1/10W
L201	1-408-978-21	INDUCTOR 47UH		R214	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W
L301	1-407-169-XX	INDUCTOR 100UH		R215	1-216-061-00	METAL GLAZE 3.3K	5% 1/10W
L302	1-408-987-21	INDUCTOR 330UH		R216	1-216-025-00	METAL GLAZE 100	5% 1/10W
L401	1-408-978-21	INDUCTOR 47UH		R217	1-216-079-00	METAL GLAZE 18K	5% 1/10W
L501	1-424-104-11	COIL, CHOKE 10UH		R218	1-216-085-00	METAL GLAZE 33K	5% 1/10W
L502	1-424-106-11	COIL, CHOKE 47UH		R219	1-216-089-00	METAL GLAZE 47K	5% 1/10W
L503	1-424-106-11	COIL, CHOKE 47UH		R220	1-216-304-11	METAL GLAZE 3.3	5% 1/10W
		<u>TRANSISTOR</u>		R221	1-216-304-11	METAL GLAZE 3.3	5% 1/10W
Q201	8-729-216-22	TRANSISTOR 2SA1162		R222	1-216-304-11	METAL GLAZE 3.3	5% 1/10W
Q202	8-729-902-96	TRANSISTOR FMS1		R223	1-216-073-00	METAL GLAZE 10K	5% 1/10W
Q203	8-729-901-01	TRANSISTOR DTC144EK		R224	1-216-295-00	METAL GLAZE 0	5% 1/10W
Q301	8-729-216-22	TRANSISTOR 2SA1162		R301	1-216-041-00	METAL GLAZE 470	5% 1/10W
Q302	8-729-100-66	TRANSISTOR 2SC1623		R302	1-216-041-00	METAL GLAZE 470	5% 1/10W
Q303	8-729-216-22	TRANSISTOR 2SA1162		R303	1-216-085-00	METAL GLAZE 33K	5% 1/10W
Q304	8-729-100-66	TRANSISTOR 2SC1623		R304	1-216-081-00	METAL GLAZE 22K	5% 1/10W
Q305	8-729-216-22	TRANSISTOR 2SA1162		R305	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W
Q306	8-729-100-66	TRANSISTOR 2SC1623		R306	1-216-035-00	METAL GLAZE 270	5% 1/10W
Q307	8-729-920-74	TRANSISTOR 2SC2412K-QR		R307	1-216-031-00	METAL GLAZE 180	5% 1/10W
				R309	1-216-081-00	METAL GLAZE 22K	5% 1/10W
				R310	1-216-083-00	METAL GLAZE 27K	5% 1/10W
				R312	1-216-073-00	METAL GLAZE 10K	5% 1/10W
				R313	1-216-121-00	METAL GLAZE 1M	5% 1/10W
				R314	1-216-051-00	METAL GLAZE 1.2K	5% 1/10W

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark				
R315	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R447	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R316	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R448	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R317	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R449	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R318	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R501	1-216-691-11	METAL CHIP	47K 0.50% 1/10W				
R319	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R502	1-216-691-11	METAL CHIP	47K 0.50% 1/10W				
R320	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R503	1-216-101-00	METAL GLAZE	150K 5% 1/10W				
R321	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R504	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R322	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R505	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R323	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R506	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R325	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R507	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W				
R326	1-216-029-00	METAL GLAZE	150 5% 1/10W	R508	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W				
R327	1-216-029-00	METAL GLAZE	150 5% 1/10W	R510	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W				
R328	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R511	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R329	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R512	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W				
R330	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R513	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W				
R331	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R514	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W				
R332	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R515	1-216-079-00	METAL GLAZE	18K 5% 1/10W				
R333	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R516	1-216-045-00	METAL GLAZE	680 5% 1/10W				
R334	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R517	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W				
R335	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R518	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W				
R336	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R519	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W				
R337	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R520	1-216-079-00	METAL GLAZE	18K 5% 1/10W				
R338	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R521	1-216-045-00	METAL GLAZE	680 5% 1/10W				
R339	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R522	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W				
R341	1-216-295-00	METAL GLAZE	0 5% 1/10W	R523	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W				
R342	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R524	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W				
R343	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R525	1-216-081-00	METAL GLAZE	22K 5% 1/10W				
R401	1-216-043-00	METAL GLAZE	560 5% 1/10W	R527	1-216-097-00	METAL GLAZE	100K 5% 1/10W				
R402	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R531	1-216-097-00	METAL GLAZE	100K 5% 1/10W				
R403	1-216-172-00	METAL GLAZE	82 5% 1/8W	R532	1-216-089-00	METAL GLAZE	47K 5% 1/10W				
<u>VARIABLE RESISTOR</u>											
R405	1-216-073-00	METAL GLAZE	10K 5% 1/10W	RV301	1-230-496-11	RES, ADJ, CARBON	10K				
R406	1-216-073-00	METAL GLAZE	10K 5% 1/10W	RV401	1-230-499-11	RES, ADJ, CARBON	100K				
R407	1-216-073-00	METAL GLAZE	10K 5% 1/10W	RV501	1-228-993-00	RES, ADJ, CARBON	4.7K				
R408	1-216-073-00	METAL GLAZE	10K 5% 1/10W	<u>CRYSTAL</u>							
R410	1-216-093-00	METAL GLAZE	68K 5% 1/10W	X301	1-567-699-11	VIBRATOR, CRYSTAL	(5.94755MHz)				
R411	1-216-093-00	METAL GLAZE	68K 5% 1/10W	X401	1-577-116-21	VIBRATOR, CRYSTAL	(16MHz)				
R414	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	*****							
R415	1-216-073-00	METAL GLAZE	10K 5% 1/10W	*A-7062-453-A VI-98 BOARD, COMPLETE (Ref.No 2,000 Series)							
R416	1-216-073-00	METAL GLAZE	10K 5% 1/10W	*****							
R417	1-216-049-00	METAL GLAZE	1K 5% 1/10W	1-216-081-00 METAL GLAZE 22K 5% 1/10W							
R418	1-216-049-00	METAL GLAZE	1K 5% 1/10W	*3-731-164-01 CASE (MAIN), SHIELD, CCD							
R419	1-216-049-00	METAL GLAZE	1K 5% 1/10W	*3-731-165-01 LID, SHIELD CASE, CCD							
R420	1-216-049-00	METAL GLAZE	1K 5% 1/10W	<u>CAPACITOR</u>							
R421	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C001	1-126-157-11	ELECT	10MF	20%	16V		
R423	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C002	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V		
R424	1-216-295-00	METAL GLAZE	0 5% 1/10W	C003	1-126-157-11	ELECT	10MF	20%	16V		
R426	1-216-295-00	METAL GLAZE	0 5% 1/10W	C004	1-126-157-11	ELECT	10MF	20%	16V		
R428	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C005	1-126-157-11	ELECT	10MF	20%	16V		
R429	1-216-073-00	METAL GLAZE	10K 5% 1/10W								
R432	1-216-073-00	METAL GLAZE	10K 5% 1/10W								
R435	1-216-295-00	METAL GLAZE	0 5% 1/10W								
R442	1-216-295-00	METAL GLAZE	0 5% 1/10W								
R444	1-216-295-00	METAL GLAZE	0 5% 1/10W								

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# VI-98

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark	
C006	1-126-157-11	ELECT 10MF	20%	16V	C207	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V
C007	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	C209	1-163-107-00	CERAMIC CHIP 39PF	5% 50V
C008	1-126-157-11	ELECT 10MF	20%	16V	C210	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
C009	1-164-232-11	CERAMIC CHIP 0.01MF		50V	C211	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C010	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	C212	1-163-123-00	CERAMIC CHIP 180PF	5% 50V
C011	1-126-157-11	ELECT 10MF	20%	16V	C213	1-163-116-00	CERAMIC CHIP 91PF	5% 50V
C012	1-126-157-11	ELECT 10MF	20%	16V	C214	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C013	1-163-127-00	CERAMIC CHIP 270PF	5%	50V	C250	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C014	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	C251	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
C015	1-124-638-11	ELECT 22MF	20%	6.3V	C252	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
C016	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	C253	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C017	1-126-157-11	ELECT 10MF	20%	16V	C254	1-163-119-00	CERAMIC CHIP 120PF	5% 50V
C018	1-124-968-11	ELECT 22MF	20%	6.3V	C255	1-163-127-00	CERAMIC CHIP 270PF	5% 50V
C019	1-126-157-11	ELECT 10MF	20%	16V	C256	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C020	1-163-033-00	CERAMIC CHIP 0.022MF		50V	C257	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C021	1-163-133-00	CERAMIC CHIP 470PF	5%	50V	C258	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C022	1-163-131-00	CERAMIC CHIP 390PF	5%	50V	C259	1-163-095-00	CERAMIC CHIP 12PF	5% 50V
C023	1-124-589-11	ELECT 47MF	20%	10V	C260	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C024	1-163-038-00	CERAMIC CHIP 0.1MF		25V	C262	1-163-111-00	CERAMIC CHIP 56PF	5% 50V
C025	1-163-133-00	CERAMIC CHIP 470PF	5%	50V	C263	1-163-111-00	CERAMIC CHIP 56PF	5% 50V
C026	1-163-099-00	CERAMIC CHIP 18PF	5%	50V	C264	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C027	1-163-127-00	CERAMIC CHIP 270PF	5%	50V	C267	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C031	1-163-103-00	CERAMIC CHIP 27PF	5%	50V	C268	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C033	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	C270	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C034	1-126-157-11	ELECT 10MF	20%	16V	C272	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C035	1-126-157-11	ELECT 10MF	20%	16V	C273	1-163-119-00	CERAMIC CHIP 120PF	5% 50V
C036	1-126-157-11	ELECT 10MF	20%	16V	C274	1-126-157-11	ELECT 10MF	20% 16V
C037	1-126-157-11	ELECT 10MF	20%	16V	C275	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C039	1-163-033-00	CERAMIC CHIP 0.022MF		50V	C276	1-163-088-00	CERAMIC CHIP 5PF	0.25PF 50V
C040	1-163-091-00	CERAMIC CHIP 8PF	0.25PF	50V	C277	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
C041	1-163-103-00	CERAMIC CHIP 27PF	5%	50V	C278	1-161-021-11	CERAMIC 0.047MF	10% 25V
C042	1-163-038-00	CERAMIC CHIP 0.1MF		25V	C300	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
C043	1-164-232-11	CERAMIC CHIP 0.01MF		50V	C301	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C045	1-124-465-00	ELECT 0.47MF	20%	50V	C302	1-163-033-00	CERAMIC CHIP 0.022MF	50V
C046	1-126-157-11	ELECT 10MF	20%	16V	C303	1-163-033-00	CERAMIC CHIP 0.022MF	50V
C047	1-124-465-00	ELECT 0.47MF	20%	50V	C304	1-163-033-00	CERAMIC CHIP 0.022MF	50V
C048	1-163-121-00	CERAMIC CHIP 150PF	5%	50V	C305	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C049	1-126-301-11	ELECT 1MF	20%	50V	C306	1-163-131-00	CERAMIC CHIP 390PF	5% 50V
C050	1-126-301-11	ELECT 1MF	20%	50V	C307	1-163-033-00	CERAMIC CHIP 0.022MF	50V
C051	1-126-157-11	ELECT 10MF	20%	16V	C308	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C052	1-126-157-11	ELECT 10MF	20%	16V	C309	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V
C053	1-126-157-11	ELECT 10MF	20%	16V	C310	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C054	1-126-157-11	ELECT 10MF	20%	16V	C311	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C055	1-126-157-11	ELECT 10MF	20%	16V	C312	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C056	1-163-033-00	CERAMIC CHIP 0.022MF		50V	C313	1-126-157-11	ELECT 10MF	20% 16V
C057	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	C315	1-163-123-00	CERAMIC CHIP 180PF	5% 50V
C058	1-162-294-31	CERAMIC 0.001MF	10%	50V	C316	1-124-589-11	ELECT 47MF	20% 16V
C200	1-126-157-11	ELECT 10MF	20%	16V	C317	1-124-589-11	ELECT 47MF	20% 16V
C201	1-126-157-11	ELECT 10MF	20%	16V	C318	1-163-115-00	CERAMIC CHIP 82PF	5% 50V
C202	1-163-033-00	CERAMIC CHIP 0.022MF		50V	C319	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C204	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	C320	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C205	1-163-038-00	CERAMIC CHIP 0.1MF		25V	C402	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
C206	1-163-115-00	CERAMIC CHIP 82PF	5%	50V	C403	1-163-117-00	CERAMIC CHIP 100PF	5% 50V

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Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark	
C404	1-126-301-11	ELECT 1MF	20%	50V	C719	1-126-157-11	ELECT 10MF	20% 16V
C405	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C720	1-126-157-11	ELECT 10MF	20% 16V	
C406	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	C721	1-126-157-11	ELECT 10MF	20% 16V
C407	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	C722	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C408	1-126-163-11	ELECT 4.7MF	20%	35V	C723	1-124-589-11	ELECT 47MF	20% 16V
C409	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C724	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	
C410	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C725	1-164-232-11	CERAMIC CHIP 0.01MF	50V	
C411	1-126-157-11	ELECT 10MF	20%	16V	C726	1-163-123-00	CERAMIC CHIP 180PF	5% 50V
C412	1-163-118-00	CERAMIC CHIP 110PF	5%	50V	C727	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
C413	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	C729	1-126-301-11	ELECT 1MF	20% 50V
C414	1-126-163-11	ELECT 4.7MF	20%	35V	C730	1-126-301-11	ELECT 1MF	20% 50V
C415	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	C731	1-163-123-00	CERAMIC CHIP 180PF	5% 50V
C416	1-163-127-00	CERAMIC CHIP 270PF	5%	50V	C733	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
C500	1-126-157-11	ELECT 10MF	20%	16V	C734	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
C501	1-163-033-00	CERAMIC CHIP 0.022MF	50V	C735	1-163-121-00	CERAMIC CHIP 150PF	5% 50V	
C502	1-124-465-00	ELECT 0.47MF	20%	50V	C736	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C503	1-163-033-00	CERAMIC CHIP 0.022MF	50V	C737	1-164-232-11	CERAMIC CHIP 0.01MF	50V	
C504	1-126-157-11	ELECT 10MF	20%	16V	C738	1-124-589-11	ELECT 47MF	20% 16V
C505	1-124-465-00	ELECT 0.47MF	20%	50V	C739	1-124-589-11	ELECT 47MF	20% 16V
C506	1-124-465-00	ELECT 0.47MF	20%	50V	C740	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C507	1-126-157-11	ELECT 10MF	20%	16V	C741	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C508	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C742	1-163-123-00	CERAMIC CHIP 180PF	5% 50V	
C509	1-124-254-00	ELECT 0.68MF	20%	50V	C743	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
C510	1-124-157-00	ELECT 2.2MF	20%	50V	C744	1-126-157-11	ELECT 10MF	20% 16V
C511	1-126-157-11	ELECT 10MF	20%	16V	C745	1-124-234-00	ELECT 22MF	20% 16V
C512	1-126-176-11	ELECT 220MF	20%	6.3V	C746	1-126-157-11	ELECT 10MF	20% 16V
C513	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C747	1-164-232-11	CERAMIC CHIP 0.01MF	50V	
C514	1-126-157-11	ELECT 10MF	20%	16V	C748	1-126-177-11	ELECT 100MF	20% 6.3V
C515	1-124-589-11	ELECT 47MF	20%	10V	C749	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
C516	1-124-471-00	ELECT 1000MF	20%	6.3V	C750	1-126-176-11	ELECT 220MF	20% 6.3V
C518	1-126-157-11	ELECT 10MF	20%	16V	C753	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
C519	1-126-157-11	ELECT 10MF	20%	16V	C754	1-163-115-00	CERAMIC CHIP 82PF	5% 50V
C520	1-126-157-11	ELECT 10MF	20%	16V	C755	1-163-115-00	CERAMIC CHIP 82PF	5% 50V
C625	1-126-373-11	ELECT 470MF	20%	10V	C756	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
C700	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C757	1-124-589-11	ELECT 47MF	20% 16V	
C701	1-163-118-00	CERAMIC CHIP 110PF	5%	50V	C758	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C702	1-163-103-00	CERAMIC CHIP 27PF	5%	50V	C759	1-124-234-00	ELECT 22MF	20% 16V
C703	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C760	1-163-123-00	CERAMIC CHIP 180PF	5% 50V	
C704	1-126-301-11	ELECT 1MF	20%	50V	C762	1-163-115-00	CERAMIC CHIP 82PF	5% 50V
C705	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	C763	1-163-227-11	CERAMIC CHIP 10PF	5% 50V
C706	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V	C764	1-163-095-00	CERAMIC CHIP 12PF	5% 50V
C707	1-126-163-11	ELECT 4.7MF	20%	25V	C765	1-126-163-11	ELECT 4.7MF	20% 25V
C708	1-126-301-11	ELECT 1MF	20%	50V	<u>CONNECTOR</u>			
C709	1-124-589-11	ELECT 47MF	20%	16V	CN001	1-506-469-11	PIN, CONNECTOR 4P	
C710	1-164-232-11	CERAMIC CHIP 0.01MF	50V	CN002	1-568-078-11	CONNECTOR (RECEPTALE) 18P		
C711	1-164-232-11	CERAMIC CHIP 0.01MF	50V	CN003	*1-564-006-21	PIN, CONNECTOR 7P		
C712	1-163-133-00	CERAMIC CHIP 470PF	5%	50V	CN004	1-568-075-11	CONNECTOR (RECEPTALE) 12P	
C713	1-163-251-11	CERAMIC CHIP 100PF	5%	50V	CN005	1-506-467-11	PIN, CONNECTOR 2P	
C714	1-124-234-00	ELECT 22MF	20%	16V	CN006	1-506-467-11	PIN, CONNECTOR 2P	
C715	1-164-232-11	CERAMIC CHIP 0.01MF	50V	CN101	*1-564-317-11	PIN, BOARD TO BOARD 5P		
C716	1-163-118-00	CERAMIC CHIP 110PF	5%	50V	CN102	*1-564-317-11	PIN, BOARD TO BOARD 5P	
C717	1-163-103-00	CERAMIC CHIP 27PF	5%	50V				
C718	1-163-038-00	CERAMIC CHIP 0.1MF	25V					

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<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
<u><b>DIODE</b></u>							
D001	8-719-800-76	DIODE 1SS226		JR024	1-216-295-00	METAL GLAZE	0 5% 1/10W
D002	8-719-400-18	DIODE MA152WK		JR025	1-216-295-00	METAL GLAZE	0 5% 1/10W
D250	8-719-800-76	DIODE 1SS226		JR026	1-216-295-00	METAL GLAZE	0 5% 1/10W
D300	8-719-118-21	DIODE 1SS283		JR027	1-216-295-00	METAL GLAZE	0 5% 1/10W
D301	8-719-118-21	DIODE 1SS283		JR028	1-216-295-00	METAL GLAZE	0 5% 1/10W
D400	8-719-400-18	DIODE MA152WK		JR029	1-216-296-00	METAL GLAZE	0 5% 1/8W
D401	8-719-400-18	DIODE MA152WK		JR030	1-216-295-00	METAL GLAZE	0 5% 1/10W
D500	8-719-400-18	DIODE MA152WK		JR031	1-216-295-00	METAL GLAZE	0 5% 1/8W
D501	8-719-400-18	DIODE MA152WK		JR032	1-216-296-00	METAL GLAZE	0 5% 1/8W
<u><b>DELAY LINE</b></u>							
DL300	1-415-593-11	DELAY LINE, ULTRASONIC GLASS		JR033	1-216-295-00	METAL GLAZE	0 5% 1/10W
DL700	1-415-313-00	DELAY LINE (1H)		JR034	1-216-296-00	METAL GLAZE	0 5% 1/8W
<u><b>FILTER</b></u>							
FL001	1-409-480-11	FILTER, TRAP		JR035	1-216-296-00	METAL GLAZE	0 5% 1/8W
FL002	1-236-948-11	FILTER, LOW PASS		JR036	1-216-296-00	METAL GLAZE	0 5% 1/8W
FL003	1-577-162-11	FILTER, CERAMIC		JR037	1-216-295-00	METAL GLAZE	0 5% 1/10W
<u><b>IC</b></u>							
IC001	8-752-034-40	IC CXA1200BQ		JR038	1-216-295-00	METAL GLAZE	0 5% 1/10W
IC400	8-752-031-49	IC CXA1203M		JR039	1-216-296-00	METAL GLAZE	0 5% 1/8W
IC500	8-752-033-40	IC CXA1201Q		JR040	1-216-296-00	METAL GLAZE	0 5% 1/8W
IC501	8-759-710-07	IC NJM2234M		JR041	1-216-296-00	METAL GLAZE	0 5% 1/8W
IC701	8-752-035-00	IC CXA1227Q		JR042	1-216-295-00	METAL GLAZE	0 5% 1/10W
IC702	8-752-034-04	IC CXA1219M		JR043	1-216-296-00	METAL GLAZE	0 5% 1/8W
<u><b>JUMPER RESISTOR</b></u>							
JR001	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR044	1-216-295-00	METAL GLAZE	0 5% 1/10W
JR002	1-216-296-00	METAL GLAZE	0 5% 1/8W	JR045	1-216-296-00	METAL GLAZE	0 5% 1/8W
JR003	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR046	1-216-295-00	METAL GLAZE	0 5% 1/10W
JR004	1-216-296-00	METAL GLAZE	0 5% 1/8W	JR047	1-216-295-00	METAL GLAZE	0 5% 1/10W
JR005	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR048	1-216-295-00	METAL GLAZE	0 5% 1/10W
JR006	1-216-296-00	METAL GLAZE	0 5% 1/8W	JR049	1-216-295-00	METAL GLAZE	0 5% 1/10W
JR007	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR050	1-216-296-00	METAL GLAZE	0 5% 1/8W
JR008	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR051	1-216-295-00	METAL GLAZE	0 5% 1/10W
JR009	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR052	1-216-296-00	METAL GLAZE	0 5% 1/8W
JR010	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR053	1-216-295-00	METAL GLAZE	0 5% 1/10W
<u><b>COIL</b></u>							
JR011	1-216-296-00	METAL GLAZE	0 5% 1/8W	L003	1-408-978-21	INDUCTOR	47UH
JR012	1-216-296-00	METAL GLAZE	0 5% 1/8W	L004	1-408-974-21	INDUCTOR	22UH
JR013	1-216-296-00	METAL GLAZE	0 5% 1/8W	L006	1-408-975-21	INDUCTOR	27UH
JR014	1-216-295-00	METAL GLAZE	0 5% 1/10W	L007	1-408-976-21	INDUCTOR	33UH
JR015	1-216-296-00	METAL GLAZE	0 5% 1/8W	L100	1-410-393-11	INDUCTOR CHIP	100UH
JR016	1-216-295-00	METAL GLAZE	0 5% 1/10W	L101	1-410-393-11	INDUCTOR CHIP	100UH
JR017	1-216-296-00	METAL GLAZE	0 5% 1/8W	L200	1-408-982-11	INDUCTOR	100UH
JR018	1-216-295-00	METAL GLAZE	0 5% 1/10W	L201	1-408-984-21	INDUCTOR	150UH
JR019	1-216-296-00	METAL GLAZE	0 5% 1/8W	L202	1-408-982-11	INDUCTOR	100UH
JR020	1-216-295-00	METAL GLAZE	0 5% 1/10W	L203	1-408-969-21	INDUCTOR	8.2UH
JR021	1-216-295-00	METAL GLAZE	0 5% 1/10W	L204	1-408-987-21	INDUCTOR	330UH
JR022	1-216-295-00	METAL GLAZE	0 5% 1/10W	L205	1-408-983-21	INDUCTOR	120UH
JR023	1-216-295-00	METAL GLAZE	0 5% 1/10W	L250	1-408-966-21	INDUCTOR	4.7UH
				L251	1-408-989-21	INDUCTOR	470UH
				L253	1-408-963-11	INDUCTOR	2.7UH
				L254	1-408-985-21	INDUCTOR	180UH
				L255	1-408-976-21	INDUCTOR	33UH
				L257	1-408-970-21	INDUCTOR	10UH
				L259	1-408-987-21	INDUCTOR	330UH
				L260	1-408-982-11	INDUCTOR	100UH
				L262	1-408-948-00	INDUCTOR	220UH

When indicating parts by reference number, please include the board name.

<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
L263	1-408-987-21	INDUCTOR	330UH	Q018	8-729-901-06	TRANSISTOR DTA144EK	
L300	1-408-982-11	INDUCTOR	100UH	Q019	8-729-100-66	TRANSISTOR 2SC1623	
L301	1-408-978-21	INDUCTOR	47UH	Q020	8-729-100-66	TRANSISTOR 2SC1623	
L303	1-408-970-21	INDUCTOR	10UH	Q021	8-729-901-01	TRANSISTOR DTC144EK	
L304	1-408-981-21	INDUCTOR	82UH	Q022	8-729-100-66	TRANSISTOR 2SC1623	
L306	1-408-968-21	INDUCTOR	6.8UH	Q023	8-729-216-22	TRANSISTOR 2SA1162	
L400	1-408-978-21	INDUCTOR	47UH	Q024	8-729-901-01	TRANSISTOR DTC144EK	
L500	1-408-982-11	INDUCTOR	100UH	Q025	8-729-100-66	TRANSISTOR 2SC1623	
L501	1-408-982-11	INDUCTOR	100UH	Q026	8-729-100-66	TRANSISTOR 2SC1623	
L700	1-408-969-21	INDUCTOR	8.2UH	Q200	8-729-216-22	TRANSISTOR 2SA1162	
L701	1-408-969-21	INDUCTOR	8.2UH	Q201	8-729-901-01	TRANSISTOR DTC144EK	
L702	1-408-971-21	INDUCTOR	12UH	Q202	8-729-216-22	TRANSISTOR 2SA1162	
L703	1-408-971-21	INDUCTOR	12UH	Q203	8-729-216-22	TRANSISTOR 2SA1162	
L704	1-408-970-21	INDUCTOR	10UH	Q204	8-729-100-66	TRANSISTOR 2SC1623	
L705	1-408-970-21	INDUCTOR	10UH	Q205	8-729-100-66	TRANSISTOR 2SC1623	
L706	1-408-982-11	INDUCTOR	100UH	Q250	8-729-100-66	TRANSISTOR 2SC1623	
L707	1-408-974-21	INDUCTOR	22UH	Q251	8-729-100-66	TRANSISTOR 2SC1623	
L708	1-408-968-21	INDUCTOR	6.8UH	Q252	8-729-100-66	TRANSISTOR 2SC1623	
L709	1-408-981-21	INDUCTOR	82UH	Q254	8-729-901-06	TRANSISTOR DTA144EK	
L710	1-408-982-11	INDUCTOR	100UH	Q255	8-729-100-66	TRANSISTOR 2SC1623	
L711	1-408-974-21	INDUCTOR	22UH	Q256	8-729-216-22	TRANSISTOR 2SA1162	
L713	1-408-979-21	INDUCTOR	56UH	Q257	8-729-100-66	TRANSISTOR 2SC1623	
L714	1-408-982-11	INDUCTOR	100UH	Q258	8-729-100-66	TRANSISTOR 2SC1623	
L715	1-408-979-21	INDUCTOR	56UH	Q259	8-729-216-22	TRANSISTOR 2SA1162	
L716	1-408-980-21	INDUCTOR	68UH	Q260	8-729-100-66	TRANSISTOR 2SC1623	
L717	1-408-979-21	INDUCTOR	56UH	Q300	8-729-100-66	TRANSISTOR 2SC1623	
L718	1-408-982-11	INDUCTOR	100UH	Q301	8-729-100-66	TRANSISTOR 2SC1623	
<u>VARIABLE COIL</u>				Q302	8-729-100-66	TRANSISTOR 2SC1623	
LV700	1-408-530-00	COIL, VARIABLE		Q303	8-729-100-66	TRANSISTOR 2SC1623	
LV701	1-408-532-00	COIL, VARIABLE		Q304	8-729-100-66	TRANSISTOR 2SC1623	
LV702	1-408-532-00	COIL, VARIABLE		Q305	8-729-100-66	TRANSISTOR 2SC1623	
<u>IC LINK</u>				Q306	8-729-100-66	TRANSISTOR 2SC1623	
PS300△1-532-605-00 LINK, IC				Q307	8-729-100-66	TRANSISTOR 2SC1623	
<u>TRANSISTOR</u>				Q308	8-729-901-06	TRANSISTOR DTA144EK	
Q003	8-729-100-66	TRANSISTOR 2SC1623		Q309	8-729-140-96	TRANSISTOR 2SD774-34	
Q004	8-729-100-66	TRANSISTOR 2SC1623		Q310	8-729-100-66	TRANSISTOR 2SC1623	
Q005	8-729-100-66	TRANSISTOR 2SC1623		Q311	8-729-100-66	TRANSISTOR 2SC1623	
Q006	8-729-100-66	TRANSISTOR 2SC1623		Q312	8-729-100-66	TRANSISTOR 2SC1623	
Q007	8-729-901-01	TRANSISTOR DTC144EK		Q313	8-729-100-66	TRANSISTOR 2SC1623	
Q008	8-729-901-06	TRANSISTOR DTA144EK		Q400	8-729-901-01	TRANSISTOR DTC144EK	
Q009	8-729-100-66	TRANSISTOR 2SC1623		Q401	8-729-901-01	TRANSISTOR DTC144EK	
Q010	8-729-100-66	TRANSISTOR 2SC1623		Q402	8-729-901-01	TRANSISTOR DTC144EK	
Q011	8-729-216-22	TRANSISTOR 2SA1162		Q403	8-729-901-01	TRANSISTOR DTC144EK	
Q012	8-729-100-66	TRANSISTOR 2SC1623		Q404	8-729-901-06	TRANSISTOR DTA144EK	
Q013	8-729-100-66	TRANSISTOR 2SC1623		Q405	8-729-901-06	TRANSISTOR DTA144EK	
Q014	8-729-216-22	TRANSISTOR 2SA1162		Q500	8-729-901-01	TRANSISTOR DTC144EK	
Q015	8-729-100-66	TRANSISTOR 2SC1623		Q501	8-729-100-66	TRANSISTOR 2SC1623	
Q016	8-729-216-22	TRANSISTOR 2SA1162		Q502	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q017	8-729-216-22	TRANSISTOR 2SA1162		Q503	8-729-216-22	TRANSISTOR 2SA1162	
				Q504	8-729-901-06	TRANSISTOR DTA144EK	
				Q700	8-729-100-66	TRANSISTOR 2SC1623	
				Q703	8-729-100-66	TRANSISTOR 2SC1623	
				Q704	8-729-100-66	TRANSISTOR 2SC1623	

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>	<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>
Q705	8-729-216-22	TRANSISTOR	2SA1162			R053	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
Q706	8-729-100-66	TRANSISTOR	2SC1623			R054	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
Q707	8-729-100-66	TRANSISTOR	2SC1623			R055	1-216-073-00	METAL GLAZE	10K	5%	1/10W
Q708	8-729-100-66	TRANSISTOR	2SC1623			R057	1-216-049-00	METAL GLAZE	1K	5%	1/10W
Q900	8-729-901-01	TRANSISTOR	DTC144EK			R058	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
Q901	8-729-216-22	TRANSISTOR	2SA1162			R059	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
Q902	8-729-901-01	TRANSISTOR	DTC144EK			R060	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
Q903	8-729-901-06	TRANSISTOR	DTA144EK			R061	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
<u>RESISTOR</u>											
R001	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	R065	1-216-021-00	METAL GLAZE	68	5%	1/10W
R002	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	R066	1-216-041-00	METAL GLAZE	470	5%	1/10W
R003	1-216-127-11	METAL GLAZE	1.8M	5%	1/10W	R067	1-216-295-00	METAL GLAZE	0	5%	1/10W
R008	1-216-095-00	METAL GLAZE	82K	5%	1/10W	R068	1-216-083-00	METAL GLAZE	27K	5%	1/10W
R009	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	R069	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R012	1-216-045-00	METAL GLAZE	680	5%	1/10W	R070	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R013	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R071	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R016	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R072	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R017	1-216-031-00	METAL GLAZE	180	5%	1/10W	R073	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R018	1-216-025-00	METAL GLAZE	100	5%	1/10W	R074	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R019	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R075	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R020	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R076	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R021	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R077	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R022	1-216-079-00	METAL GLAZE	18K	5%	1/10W	R078	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R023	1-216-079-00	METAL GLAZE	18K	5%	1/10W	R079	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R024	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	R080	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R025	1-216-081-00	METAL GLAZE	22K	5%	1/10W	R081	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R026	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R082	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W
R027	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R200	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R028	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	R201	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R029	1-216-643-11	METAL CHIP	470	0.50%	1/10W	R203	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R030	1-216-041-00	METAL GLAZE	470	5%	1/10W	R204	1-216-043-00	METAL GLAZE	560	5%	1/10W
R031	1-216-045-00	METAL GLAZE	680	5%	1/10W	R205	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R032	1-216-041-00	METAL GLAZE	470	5%	1/10W	R206	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R033	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	R207	1-216-043-00	METAL GLAZE	560	5%	1/10W
R034	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	R208	1-216-025-00	METAL GLAZE	100	5%	1/10W
R035	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	R209	1-216-041-00	METAL GLAZE	470	5%	1/10W
R036	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R210	1-216-041-00	METAL GLAZE	470	5%	1/10W
R037	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R211	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R038	1-216-045-00	METAL GLAZE	680	5%	1/10W	R212	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R039	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	R213	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R040	1-216-035-00	METAL GLAZE	270	5%	1/10W	R214	1-216-043-00	METAL GLAZE	560	5%	1/10W
R041	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	R215	1-216-043-00	METAL GLAZE	560	5%	1/10W
R042	1-216-047-00	METAL GLAZE	820	5%	1/10W	R250	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R044	1-216-047-00	METAL GLAZE	820	5%	1/10W	R251	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R045	1-216-113-00	METAL GLAZE	470K	5%	1/10W	R252	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R046	1-216-295-00	METAL GLAZE	0	5%	1/10W	R253	1-216-043-00	METAL GLAZE	560	5%	1/10W
R047	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	R254	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R048	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R255	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R049	1-216-025-00	METAL GLAZE	100	5%	1/10W	R256	1-216-047-00	METAL GLAZE	820	5%	1/10W
R050	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	R257	1-216-043-00	METAL GLAZE	560	5%	1/10W
R051	1-216-029-00	METAL GLAZE	150	5%	1/10W	R258	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R052	1-216-121-00	METAL GLAZE	1M	5%	1/10W	R259	1-216-075-00	METAL GLAZE	12K	5%	1/10W

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R260	1-216-033-00	METAL GLAZE	220 5% 1/10W	R329	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R261	1-216-021-00	METAL GLAZE	68 5% 1/10W	R330	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R262	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R331	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R263	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R332	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R264	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R333	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R265	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R335	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R266	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R337	1-216-295-00	METAL GLAZE	0 5% 1/10W
R267	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R338	1-216-048-00	METAL GLAZE	910 5% 1/10W
R268	1-216-039-00	METAL GLAZE	390 5% 1/10W	R339	1-216-295-00	METAL GLAZE	0 5% 1/10W
R269	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R342	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R270	1-216-295-00	METAL GLAZE	0 5% 1/10W	R343	1-216-039-00	METAL GLAZE	390 5% 1/10W
R271	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R344	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R273	1-216-045-00	METAL GLAZE	680 5% 1/10W	R345	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R274	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R346	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R275	1-216-033-00	METAL GLAZE	220 5% 1/10W	R347	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R276	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R348	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R277	1-216-295-00	METAL GLAZE	0 5% 1/10W	R349	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R278	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R400	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R279	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R401	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R281	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R402	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R282	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R403	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R283	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R405	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R284	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R406	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R285	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R407	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R286	1-216-041-00	METAL GLAZE	470 5% 1/10W	R408	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R287	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R409	1-216-295-00	METAL GLAZE	0 5% 1/10W
R288	1-216-295-00	METAL GLAZE	0 5% 1/10W	R410	1-216-699-11	METAL CHIP	100K 0.50% 1/10W
R289	1-216-037-00	METAL GLAZE	330 5% 1/10W	R411	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R300	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R412	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R302	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R413	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R303	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R414	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R304	1-216-033-00	METAL GLAZE	220 5% 1/10W	R500	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R305	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R501	1-216-074-00	METAL GLAZE	11K 5% 1/10W
R306	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R506	1-216-699-11	METAL CHIP	100K 0.50% 1/10W
R307	1-216-041-00	METAL GLAZE	470 5% 1/10W	R507	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R308	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R508	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R309	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R509	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R310	1-216-034-00	METAL GLAZE	240 5% 1/10W	R510	1-216-022-00	METAL GLAZE	75 5% 1/10W
R311	1-216-046-00	METAL GLAZE	750 5% 1/10W	R511	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R312	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R512	1-216-295-00	METAL GLAZE	0 5% 1/10W
R313	1-216-041-00	METAL GLAZE	470 5% 1/10W	R513	1-216-121-00	METAL GLAZE	1M 5% 1/10W
R314	1-216-039-00	METAL GLAZE	390 5% 1/10W	R516	1-216-020-00	METAL GLAZE	62 5% 1/10W
R318	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R517	1-249-406-11	CARBON	120 5% 1/4W
R319	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R518	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R320	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R519	1-216-295-00	METAL GLAZE	0 5% 1/10W
R321	1-216-041-00	METAL GLAZE	470 5% 1/10W	R520	1-216-295-00	METAL GLAZE	0 5% 1/10W
R322	1-216-027-00	METAL GLAZE	120 5% 1/10W	R521	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R323	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R525	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R324	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R700	1-216-039-00	METAL GLAZE	390 5% 1/10W
R325	1-216-041-00	METAL GLAZE	470 5% 1/10W	R701	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R326	1-216-037-00	METAL GLAZE	330 5% 1/10W	R702	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R327	1-216-047-00	METAL GLAZE	820 5% 1/10W	R703	1-216-039-00	METAL GLAZE	390 5% 1/10W
R328	1-216-037-00	METAL GLAZE	330 5% 1/10W	R704	1-216-039-00	METAL GLAZE	390 5% 1/10W

When indicating parts by reference number, please include the board name.

**VI-98****CC-56**

<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>					<u>Remark</u>	<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>					<u>Remark</u>
R705	1-216-073-00	METAL GLAZE	10K	5%	1/10W			RV006	1-228-990-00	RES, ADJ, CARBON 1K					
R706	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W			RV007	1-228-990-00	RES, ADJ, CARBON 1K					
R707	1-216-039-00	METAL GLAZE	390	5%	1/10W			RV200	1-228-993-00	RES, ADJ, CARBON 4.7K					
R708	1-216-121-00	METAL GLAZE	1M	5%	1/10W			RV201	1-228-990-00	RES, ADJ, CARBON 1K					
R709	1-216-079-00	METAL GLAZE	18K	5%	1/10W			RV300	1-228-993-00	RES, ADJ, CARBON 4.7K					
R710	1-216-128-11	METAL GLAZE	2M	5%	1/10W			RV402	1-228-993-00	RES, ADJ, CARBON 4.7K					
R711	1-216-079-00	METAL GLAZE	18K	5%	1/10W			RV403	1-228-994-00	RES, ADJ, CARBON 10K					
R712	1-216-060-00	METAL GLAZE	3K	5%	1/10W			RV500	1-228-996-00	RES, ADJ, CARBON 47K					
R713	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W			RV700	1-228-996-00	RES, ADJ, CARBON 47K					
R714	1-216-049-00	METAL GLAZE	1K	5%	1/10W			RV701	1-228-994-00	RES, ADJ, CARBON 10K					
R715	1-216-060-00	METAL GLAZE	3K	5%	1/10W			RV702	1-228-994-00	RES, ADJ, CARBON 10K					
R716	1-216-049-00	METAL GLAZE	1K	5%	1/10W										<u>COIL</u>
R717	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W			T200	1-409-466-11	TRAP					
R718	1-216-077-00	METAL GLAZE	15K	5%	1/10W										<u>CRYSTAL</u>
R719	1-216-295-00	METAL GLAZE	0	5%	1/10W			X001	1-577-117-21	VIBRATOR, CRYSTAL (4.43MHz)					
R720	1-216-295-00	METAL GLAZE	0	5%	1/10W			X700	1-577-117-21	VIBRATOR, CRYSTAL (4.43MHz)					
R721	1-216-295-00	METAL GLAZE	0	5%	1/10W										
R722	1-216-041-00	METAL GLAZE	470	5%	1/10W										
R723	1-216-041-00	METAL GLAZE	470	5%	1/10W										
R724	1-216-049-00	METAL GLAZE	1K	5%	1/10W										
R726	1-216-685-11	METAL CHIP	2.7K	0.50%	1/10W										
R727	1-216-049-00	METAL GLAZE	1K	5%	1/10W										*A-7062-465-A CC-56 BOARD, COMPLETE (Ref.No 2,000 Series)
R728	1-216-058-00	METAL GLAZE	2.4K	5%	1/10W										
R729	1-216-050-00	METAL GLAZE	1.1K	5%	1/10W										
R730	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W										
R736	1-216-049-00	METAL GLAZE	1K	5%	1/10W			C101	1-126-160-11	ELECT	1MF	20%	50V		
R738	1-216-041-00	METAL GLAZE	470	5%	1/10W			C102	1-124-463-00	ELECT	0.1MF	20%	50V		
R739	1-216-043-00	METAL GLAZE	560	5%	1/10W			C103	1-164-232-11	CERAMIC CHIP	0.01MF	50V			
R740	1-216-085-00	METAL GLAZE	33K	5%	1/10W			C104	1-124-239-00	ELECT	6.8MF	20%	10V		
R741	1-216-081-00	METAL GLAZE	22K	5%	1/10W			C105	1-164-232-11	CERAMIC CHIP	0.01MF	50V			
R742	1-216-045-00	METAL GLAZE	680	5%	1/10W			C106	1-126-160-11	ELECT	1MF	20%	50V		
R743	1-216-045-00	METAL GLAZE	680	5%	1/10W			C107	1-124-239-00	ELECT	6.8MF	20%	10V		
R744	1-216-049-00	METAL GLAZE	1K	5%	1/10W			C109	1-126-160-11	ELECT	1MF	20%	50V		
R746	1-216-045-00	METAL GLAZE	680	5%	1/10W			C110	1-126-160-11	ELECT	1MF	20%	50V		
R747	1-216-045-00	METAL GLAZE	680	5%	1/10W			C111	1-126-160-11	ELECT	1MF	20%	50V		
R748	1-216-047-00	METAL GLAZE	820	5%	1/10W			C112	1-124-239-00	ELECT	6.8MF	20%	10V		
R749	1-216-295-00	METAL GLAZE	0	5%	1/10W			C113	1-163-033-00	CERAMIC CHIP	0.022MF	50V			
R750	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W			C114	1-126-160-11	ELECT	1MF	20%	50V		
R751	1-216-295-00	METAL GLAZE	0	5%	1/10W			C115	1-126-160-11	ELECT	1MF	20%	50V		
R752	1-216-081-00	METAL GLAZE	22K	5%	1/10W			C116	1-126-160-11	ELECT	1MF	20%	50V		
R753	1-216-083-00	METAL GLAZE	2.7K	5%	1/10W			C117	1-163-033-00	CERAMIC CHIP	0.022MF	50V			
R754	1-216-049-00	METAL GLAZE	1K	5%	1/10W										
R901	1-216-049-00	METAL GLAZE	1K	5%	1/10W										
R902	1-216-073-00	METAL GLAZE	10K	5%	1/10W										
<u>VARIABLE RESISTOR</u>															
RV001	1-228-994-00	RES, ADJ, CARBON 10K													
RV002	1-228-996-00	RES, ADJ, CARBON 47K													
RV003	1-228-991-00	RES, ADJ, CARBON 2.2K													
RV004	1-228-991-00	RES, ADJ, CARBON 2.2K													
RV005	1-228-993-00	RES, ADJ, CARBON 4.7K													
<u>ENCAPSULATED COMPONENT</u>															
FL101	1-236-058-21	ENCAPSULATED COMPONENT													
FL102	1-236-058-21	ENCAPSULATED COMPONENT													
FL103	1-236-058-21	ENCAPSULATED COMPONENT													
FL104	1-236-058-21	ENCAPSULATED COMPONENT													
FL105	1-236-058-21	ENCAPSULATED COMPONENT													
FL106	1-236-058-21	ENCAPSULATED COMPONENT													
FL107	1-236-058-21	ENCAPSULATED COMPONENT													
FL108	1-236-058-21	ENCAPSULATED COMPONENT													
FL109	1-236-058-21	ENCAPSULATED COMPONENT													

When indicating parts by reference number, please include the board name.

CC-56

FL-41

<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	
<u>IC</u>								
IC100	8-752-324-87	IC CXLT502M		JR015	1-216-295-00	METAL GLAZE	0 5% 1/10W	
				JR016	1-216-295-00	METAL GLAZE	0 5% 1/10W	
				JR017	1-216-295-00	METAL GLAZE	0 5% 1/10W	
				JR018	1-216-295-00	METAL GLAZE	0 5% 1/10W	
				JR019	1-216-295-00	METAL GLAZE	0 5% 1/10W	
<u>COIL</u>								
L001	1-408-970-21	INDUCTOR	10UH	JR020	1-216-295-00	METAL GLAZE	0 5% 1/10W	
L002	1-408-975-21	INDUCTOR	27UH	JR021	1-216-295-00	METAL GLAZE	0 5% 1/10W	
<u>RESISTOR</u>								
R100	1-216-121-00	METAL GLAZE	1M 5%	1/10W	JR022	1-216-295-00	METAL GLAZE	0 5% 1/10W
R101	1-216-029-00	METAL GLAZE	150 5%	1/10W	JR024	1-216-295-00	METAL GLAZE	0 5% 1/10W
R102	1-216-073-00	METAL GLAZE	10K 5%	1/10W	JR025	1-216-295-00	METAL GLAZE	0 5% 1/10W
R103	1-216-053-00	METAL GLAZE	1.5K 5%	1/10W	JR026	1-216-296-00	METAL GLAZE	0 5% 1/8W
R104	1-216-053-00	METAL GLAZE	1.5K 5%	1/10W	JR028	1-216-295-00	METAL GLAZE	0 5% 1/10W
R105	1-216-053-00	METAL GLAZE	1.5K 5%	1/10W	JR029	1-216-295-00	METAL GLAZE	0 5% 1/10W
R106	1-216-121-00	METAL GLAZE	1M 5%	1/10W	JR030	1-216-295-00	METAL GLAZE	0 5% 1/10W
R107	1-216-121-00	METAL GLAZE	1M 5%	1/10W	JR034	1-216-296-00	METAL GLAZE	0 5% 1/8W
R108	1-216-121-00	METAL GLAZE	1M 5%	1/10W	JR035	1-216-296-00	METAL GLAZE	0 5% 1/8W
R109	1-216-027-00	METAL GLAZE	120 5%	1/10W	JR036	1-216-296-00	METAL GLAZE	0 5% 1/8W
R110	1-216-051-00	METAL GLAZE	1.2K 5%	1/10W	JR037	1-216-296-00	METAL GLAZE	0 5% 1/8W
R111	1-216-053-00	METAL GLAZE	1.5K 5%	1/10W	JR038	1-216-296-00	METAL GLAZE	0 5% 1/8W
*****								
*A-7062-454-A FL-41 BOARD, COMPLETE (Ref.No 7,000 Series)								
1-590-014-11	CABLE, FLAT(1.0MM PITCH) 9 CORE			JR045	1-216-296-00	METAL GLAZE	0 5% 1/8W	
1-590-015-11	CABLE, FLAT(1.0MM PITCH)10 CORE			JR046	1-216-296-00	METAL GLAZE	0 5% 1/8W	
3-731-123-01	BASE, VOLUME			JR047	1-216-296-00	METAL GLAZE	0 5% 1/8W	
7-627-552-38	SCREW, PRECISION +P 1.7X3			JR048	1-216-296-00	METAL GLAZE	0 5% 1/8W	
<u>CONNECTOR</u>								
CN101	1-575-361-11	CONNECTOR, FPC/FFC 9P		JR049	1-216-296-00	METAL GLAZE	0 5% 1/8W	
CN102	1-590-018-11	CONNECTOR, FPC/FFC 10P		JR050	1-216-296-00	METAL GLAZE	0 5% 1/8W	
<u>DIODE</u>								
D121	8-719-955-04	DIODE PY5504S-1		JR051	1-216-296-00	METAL GLAZE	0 5% 1/8W	
D122	8-719-955-04	DIODE PY5504S-1		JR052	1-216-296-00	METAL GLAZE	0 5% 1/8W	
<u>JUMPER RESISTOR</u>								
JR001	1-216-295-00	METAL GLAZE	0 5%	1/10W	JR053	1-216-296-00	METAL GLAZE	0 5% 1/8W
JR002	1-216-295-00	METAL GLAZE	0 5%	1/10W	JR054	1-216-296-00	METAL GLAZE	0 5% 1/8W
JR003	1-216-295-00	METAL GLAZE	0 5%	1/10W	JR055	1-216-296-00	METAL GLAZE	0 5% 1/8W
JR004	1-216-295-00	METAL GLAZE	0 5%	1/10W	JR056	1-216-296-00	METAL GLAZE	0 5% 1/8W
JR005	1-216-295-00	METAL GLAZE	0 5%	1/10W	JR057	1-216-296-00	METAL GLAZE	0 5% 1/8W
JR006	1-216-295-00	METAL GLAZE	0 5%	1/10W	JR058	1-216-296-00	METAL GLAZE	0 5% 1/8W
JR007	1-216-295-00	METAL GLAZE	0 5%	1/10W	JR059	1-216-296-00	METAL GLAZE	0 5% 1/8W
JR008	1-216-295-00	METAL GLAZE	0 5%	1/10W	JR060	1-216-296-00	METAL GLAZE	0 5% 1/8W
JR010	1-216-295-00	METAL GLAZE	0 5%	1/10W	JR061	1-216-296-00	METAL GLAZE	0 5% 1/8W
JR011	1-216-295-00	METAL GLAZE	0 5%	1/10W	JR062	1-216-296-00	METAL GLAZE	0 5% 1/8W
JR012	1-216-295-00	METAL GLAZE	0 5%	1/10W	JR063	1-216-296-00	METAL GLAZE	0 5% 1/8W
JR013	1-216-295-00	METAL GLAZE	0 5%	1/10W	JR064	1-216-296-00	METAL GLAZE	0 5% 1/8W
JR014	1-216-295-00	METAL GLAZE	0 5%	1/10W	JR065	1-216-296-00	METAL GLAZE	0 5% 1/8W
				JR066	1-216-296-00	METAL GLAZE	0 5% 1/8W	
				JR067	1-216-296-00	METAL GLAZE	0 5% 1/8W	
				JR068	1-216-296-00	METAL GLAZE	0 5% 1/8W	
				JR069	1-216-296-00	METAL GLAZE	0 5% 1/8W	
				JR070	1-216-296-00	METAL GLAZE	0 5% 1/8W	
				JR071	1-216-296-00	METAL GLAZE	0 5% 1/8W	
				JR072	1-216-296-00	METAL GLAZE	0 5% 1/8W	

When indicating parts by reference number, please include the board name.

**FL-41****FR-60**

<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>	<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>
JR073	1-216-296-00	METAL GLAZE	0	5%	1/8W	C002	1-164-232-11	CERAMIC CHIP	0.01MF	50V	
<u>RESISTOR</u>											
R101	1-216-031-00	METAL GLAZE	180	5%	1/10W	C003	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
R102	1-216-031-00	METAL GLAZE	180	5%	1/10W	C004	1-126-153-11	ELECT	22MF	20%	6.3V
R103	1-216-081-00	METAL GLAZE	22K	5%	1/10W	C005	1-126-153-11	ELECT	22MF	20%	6.3V
R104	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	C006	1-126-157-11	ELECT	10MF	20%	10V
R105	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	C007	1-126-157-11	ELECT	10MF	20%	10V
R106	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	C008	1-126-157-11	ELECT	10MF	20%	10V
R107	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	C009	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
R108	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	C010	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
R109	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	C011	1-126-157-11	ELECT	10MF	20%	10V
R110	1-216-073-00	METAL GLAZE	10K	5%	1/10W	C012	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
R111	1-216-081-00	METAL GLAZE	22K	5%	1/10W	C013	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
R112	1-216-073-00	METAL GLAZE	10K	5%	1/10W	C014	1-126-157-11	ELECT	10MF	20%	10V
R113	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	C015	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
R115	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	C016	1-163-089-00	CERAMIC CHIP	6PF	0.5PF	50V
R117	1-216-021-00	METAL GLAZE	68	5%	1/10W	C017	1-163-245-11	CERAMIC CHIP	56PF	5%	50V
R118	1-216-021-00	METAL GLAZE	68	5%	1/10W	C018	1-163-098-00	CERAMIC CHIP	16PF	5%	50V
R121	1-216-089-00	METAL GLAZE	47K	5%	1/10W	C019	1-163-098-00	CERAMIC CHIP	16PF	5%	50V
R130	1-216-295-00	METAL GLAZE	0	5%	1/10W	C020	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
<u>SWITCH</u>											
S101	1-570-865-11	SWITCH, SLIDE				C021	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
S102	1-554-174-00	SWITCH, KEY BOARD				C023	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
S104	1-554-174-00	SWITCH, KEY BOARD				C024	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
S105	1-570-865-11	SWITCH, SLIDE									
S106	1-554-174-00	SWITCH, KEY BOARD									
S107	1-554-174-00	SWITCH, KEY BOARD									
S108	1-554-174-00	SWITCH, KEY BOARD									
S109	1-554-174-00	SWITCH, KEY BOARD									
S110	1-554-174-00	SWITCH, KEY BOARD									
S111	1-554-174-00	SWITCH, KEY BOARD									
S112	1-554-174-00	SWITCH, KEY BOARD									
S113	1-554-174-00	SWITCH, KEY BOARD									
S114	1-570-854-11	SWITCH, SLIDE									
<u>VARIABLE RESISTOR</u>											
VR101	1-241-207-11	RES, VAR, SLIDE	10K/10K								
VR102	1-238-374-11	RES, VAR, CARBON	10K/10K								
*****											
*A-7062-455-A FR-60 BOARD, COMPLETE (Ref.No 9,000 Series)											
*****											
1-216-295-00 METAL GLAZE 0 5% 1/10W											
*3-697-607-01 HOLDER (SU), LED											
*3-742-524-11 HOLDER (LEFT), INDICATION TUBE											
*3-749-041-01 HOLDER (R), INDICATION TUBE											
3-941-326-01 COVER, FR											
<u>CAPACITOR</u>											
C001	1-126-154-11	ELECT	47MF	20%	6.3V	D006	8-719-400-18	DIODE	AA3422S		
						D007	8-719-400-18	DIODE	MA152WK		
						D008	8-719-400-18	DIODE	SEL2810A		
						D009	8-719-400-18	DIODE	MA152WK		
						D010	8-719-400-18	DIODE	SLP281C-50		
						D011	8-719-400-18	DIODE	EBR5534S		
						D012	8-719-400-18	DIODE	MA152WK		
						D013	8-719-400-18	DIODE	SLP281C-50		
						D014	8-719-400-18	DIODE	TLY123		
						D015	8-719-400-18	DIODE	SLP281C-50		
						D016	8-719-400-18	DIODE	SLP281C-50		

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
D017	8-719-301-49	DIODE SEL2810A		R021	1-216-089-00	METAL GLAZE	47K 5% 1/10W
D018	8-719-921-01	DIODE EBR5534S		R022	1-216-089-00	METAL GLAZE	47K 5% 1/10W
D020	8-719-918-96	DIODE AA3422S		R023	1-216-089-00	METAL GLAZE	47K 5% 1/10W
D021	8-719-812-33	DIODE TLG123A		R025	1-216-097-00	METAL GLAZE	100K 5% 1/10W
D022	8-719-908-54	DIODE SLR-54VC3		R026	1-216-097-00	METAL GLAZE	100K 5% 1/10W
<u>IC</u>				R027	1-216-097-00	METAL GLAZE	100K 5% 1/10W
IC001	8-759-998-91	IC BA6800AFVC		R028	1-216-097-00	METAL GLAZE	100K 5% 1/10W
IC002	1-466-131-21	IC GP1U52X		R029	1-216-097-00	METAL GLAZE	100K 5% 1/10W
IC003	8-759-937-56	IC S-8054ALB-LM-S		R030	1-216-097-00	METAL GLAZE	100K 5% 1/10W
IC004	8-759-941-78	IC S-8053ALB		R031	1-216-097-00	METAL GLAZE	100K 5% 1/10W
IC005	8-759-502-15	IC MB89793B-GDX451		R032	1-216-097-00	METAL GLAZE	100K 5% 1/10W
IC006	8-759-748-54	IC CAT35C202P		R033	1-216-097-00	METAL GLAZE	100K 5% 1/10W
<u>COIL</u>				R034	1-216-097-00	METAL GLAZE	100K 5% 1/10W
L001	1-407-169-XX	INDUCTOR	100UH	R035	1-216-097-00	METAL GLAZE	100K 5% 1/10W
L002	1-407-169-XX	INDUCTOR	100UH	R036	1-216-097-00	METAL GLAZE	100K 5% 1/10W
L003	1-407-169-XX	INDUCTOR	100UH	R037	1-216-097-00	METAL GLAZE	100K 5% 1/10W
<u>INDICATOR TUBE</u>				R038	1-216-097-00	METAL GLAZE	100K 5% 1/10W
ND001	1-519-507-31	INDICATOR TUBE, FLUORESCENT		R039	1-216-097-00	METAL GLAZE	100K 5% 1/10W
<u>TRANSISTOR</u>				R040	1-216-097-00	METAL GLAZE	100K 5% 1/10W
Q001	8-729-901-47	TRANSISTOR DTA143EK		R041	1-216-097-00	METAL GLAZE	100K 5% 1/10W
Q002	8-729-901-47	TRANSISTOR DTA143EK		R042	1-216-097-00	METAL GLAZE	100K 5% 1/10W
Q003	8-729-923-80	TRANSISTOR DTC143EK		R043	1-216-089-00	METAL GLAZE	47K 5% 1/10W
Q004	8-729-923-80	TRANSISTOR DTC143EK		R044	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
Q005	8-729-923-80	TRANSISTOR DTC143EK		R045	1-216-073-00	METAL GLAZE	10K 5% 1/10W
Q006	8-729-923-80	TRANSISTOR DTC143EK		R049	1-216-113-00	METAL GLAZE	470K 5% 1/10W
Q007	8-729-901-47	TRANSISTOR DTA143EK		R050	1-216-113-00	METAL GLAZE	470K 5% 1/10W
<u>RESISTOR</u>				R051	1-216-031-00	METAL GLAZE	180 5% 1/10W
R001	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R052	1-216-031-00	METAL GLAZE	180 5% 1/10W
R002	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R053	1-216-031-00	METAL GLAZE	180 5% 1/10W
R003	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R054	1-216-031-00	METAL GLAZE	180 5% 1/10W
R004	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R055	1-216-031-00	METAL GLAZE	180 5% 1/10W
R005	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R056	1-216-031-00	METAL GLAZE	180 5% 1/10W
R006	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R057	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R007	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R058	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R008	1-216-035-00	METAL GLAZE	270 5% 1/10W	R059	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R009	1-216-035-00	METAL GLAZE	270 5% 1/10W	R060	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R010	1-216-031-00	METAL GLAZE	180 5% 1/10W	R061	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R011	1-216-035-00	METAL GLAZE	270 5% 1/10W	R062	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R012	1-216-115-00	METAL GLAZE	550K 5% 1/10W	R063	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R013	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R064	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R014	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R065	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R015	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R066	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R016	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R067	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R017	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R068	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R018	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R069	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R019	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R070	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R020	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R071	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
				R072	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
				R073	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
				R074	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
				R075	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
				R076	1-216-073-00	METAL GLAZE	10K 5% 1/10W
				R077	1-216-035-00	METAL GLAZE	270 5% 1/10W

When indicating parts by reference number, please include the board name.

**FR-60**

TU-100

Ref.No	Part No.	Description		Remark		Ref.No	Part No.	Description		Remark
R079	1-216-031-00	METAL GLAZE	180	5%	1/10W	S008	1-554-174-00	SWITCH, KEY BOARD		
R080	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	S009	1-554-174-00	SWITCH, KEY BOARD		
R081	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	S010	1-554-174-00	SWITCH, KEY BOARD		
R100	1-216-295-00	METAL GLAZE	0	5%	1/10W	S011	1-554-174-00	SWITCH, KEY BOARD		
R101	1-216-295-00	METAL GLAZE	0	5%	1/10W	S012	1-554-174-00	SWITCH, KEY BOARD		
R102	1-216-049-00	METAL GLAZE	1K	5%	1/10W	S013	1-554-174-00	SWITCH, KEY BOARD		
R103	1-216-049-00	METAL GLAZE	1K	5%	1/10W	S014	1-554-174-00	SWITCH, KEY BOARD		
R105	1-216-049-00	METAL GLAZE	1K	5%	1/10W	S015	1-554-174-00	SWITCH, KEY BOARD		
R106	1-216-049-00	METAL GLAZE	1K	5%	1/10W	S016	1-554-174-00	SWITCH, KEY BOARD		
R107	1-216-049-00	METAL GLAZE	1K	5%	1/10W	S017	1-554-174-00	SWITCH, KEY BOARD		
R108	1-216-049-00	METAL GLAZE	1K	5%	1/10W	S018	1-554-174-00	SWITCH, KEY BOARD		
R109	1-216-049-00	METAL GLAZE	1K	5%	1/10W	S019	1-554-174-00	SWITCH, KEY BOARD		
R110	1-216-049-00	METAL GLAZE	1K	5%	1/10W	S020	1-554-174-00	SWITCH, KEY BOARD		
R111	1-216-049-00	METAL GLAZE	1K	5%	1/10W	S023	1-554-174-00	SWITCH, KEY BOARD		
R112	1-216-049-00	METAL GLAZE	1K	5%	1/10W	S024	1-554-174-00	SWITCH, KEY BOARD		
R113	1-216-049-00	METAL GLAZE	1K	5%	1/10W	S025	1-570-865-11	SWITCH, SLIDE		
R114	1-216-049-00	METAL GLAZE	1K	5%	1/10W			<u>VARIABLE RESISTOR</u>		
R115	1-216-049-00	METAL GLAZE	1K	5%	1/10W					
R116	1-216-049-00	METAL GLAZE	1K	5%	1/10W					
R117	1-216-049-00	METAL GLAZE	1K	5%	1/10W					
R118	1-216-049-00	METAL GLAZE	1K	5%	1/10W			<u>CRYSTAL</u>		
R119	1-216-049-00	METAL GLAZE	1K	5%	1/10W	X001	1-567-098-00	VIBRATOR, CRYSTAL (32KHz)		
R120	1-216-049-00	METAL GLAZE	1K	5%	1/10W					
R121	1-216-049-00	METAL GLAZE	1K	5%	1/10W					
R122	1-216-295-00	METAL GLAZE	0	5%	1/10W					
R123	1-216-295-00	METAL GLAZE	0	5%	1/10W			*A-7062-456-A TU-100 BOARD, COMPLETE (Ref.No 5,000 Series)		
R124	1-216-295-00	METAL GLAZE	0	5%	1/10W			*****		
R125	1-216-049-00	METAL GLAZE	1K	5%	1/10W					
R126	1-216-049-00	METAL GLAZE	1K	5%	1/10W			1-575-454-11 WIRE, FLAT TYPE (28 CORE)		
R127	1-216-049-00	METAL GLAZE	1K	5%	1/10W					
R128	1-216-049-00	METAL GLAZE	1K	5%	1/10W			<u>CAPACITOR</u>		
R129	1-216-049-00	METAL GLAZE	1K	5%	1/10W	C001	1-126-233-11	ELECT 22MF	20%	25V
R130	1-216-049-00	METAL GLAZE	1K	5%	1/10W	C002	1-163-035-00	CERAMIC CHIP 0.047MF	50V	
R131	1-216-049-00	METAL GLAZE	1K	5%	1/10W	C003	1-126-233-11	ELECT 22MF	20%	25V
R132	1-216-049-00	METAL GLAZE	1K	5%	1/10W	C004	1-163-035-00	CERAMIC CHIP 0.047MF	50V	
R133	1-216-049-00	METAL GLAZE	1K	5%	1/10W	C005	1-124-360-00	ELECT 1000MF	20%	16V
R134	1-216-049-00	METAL GLAZE	1K	5%	1/10W	C006	1-163-035-00	CERAMIC CHIP 0.047MF	50V	
R150	1-216-035-00	METAL GLAZE	270	5%	1/10W	C007	1-124-927-11	ELECT 4.7MF	20%	50V
R151	1-216-031-00	METAL GLAZE	180	5%	1/10W	C011	1-126-233-11	ELECT 22MF	20%	25V
R152	1-216-035-00	METAL GLAZE	270	5%	1/10W	C012	1-163-035-00	CERAMIC CHIP 0.047MF	50V	
R153	1-216-049-00	METAL GLAZE	1K	5%	1/10W	C013	1-163-035-00	CERAMIC CHIP 0.047MF	50V	
R201	1-216-295-00	METAL GLAZE	0	5%	1/10W	C014	1-123-875-11	ELECT 10MF	20%	50V
R203	1-216-089-00	METAL GLAZE	47K	5%	1/10W	C015	1-163-103-00	CERAMIC CHIP 27PF	5%	50V
R204	1-216-089-00	METAL GLAZE	47K	5%	1/10W	C016	1-163-123-00	CERAMIC CHIP 180PF	5%	50V
						C017	1-163-484-91	CERAMIC CHIP 56PF	5%	50V
						C019	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V
		<u>SWITCH</u>								
S001	1-554-174-00	SWITCH, KEY BOARD				C020	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V
S002	1-554-174-00	SWITCH, KEY BOARD				C021	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
S003	1-554-174-00	SWITCH, KEY BOARD				C022	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V
S004	1-554-174-00	SWITCH, KEY BOARD				C023	1-124-925-11	ELECT 2.2MF	20%	50V
S005	1-554-174-00	SWITCH, KEY BOARD				C029	1-126-233-11	ELECT 22MF	20%	25V
S006	1-554-174-00	SWITCH, KEY BOARD				C030	1-126-233-11	ELECT 22MF	20%	25V
S007	1-554-174-00	SWITCH, KEY BOARD				C032	1-163-035-00	CERAMIC CHIP 0.047MF	50V	

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description			Remark	Ref.No	Part No.	Description		Remark					
C033	1-126-233-11	ELECT	22MF	20%	25V	C042	1-136-161-00	MYLAR	0.047MF	10%	50V				
						L005	1-408-408-00	INDUCTOR		8.2UH					
<u>CONNECTOR</u>															
CN001	1-563-605-11	CONNECTOR, FLEXIBLE 28P				L007	1-408-408-00	INDUCTOR		8.2UH					
						L009	1-408-413-00	INDUCTOR		22UH					
<u>DIODE</u>															
D002	8-719-400-18	DIODE MA152WK				MP001	1-466-144-11	DECORDER BLOCK		MPL-389)					
D003	8-719-200-36	DIODE E10QS04													
<u>IC</u>															
IC001	8-759-157-40	IC UPC574J				Q001	8-729-100-66	TRANSISTOR 2SC1623							
<u>IF BLOCK</u>						Q003	8-729-216-22	TRANSISTOR 2SA1162							
IF001	1-466-167-11	IF BLOCK (IFX-389C)				Q004	8-729-100-66	TRANSISTOR 2SC1623							
<u>JUMPER RESISTOR</u>						Q006	8-729-100-66	TRANSISTOR 2SC1623							
JR001	1-216-295-00	METAL GLAZE	0	5%	1/10W	Q010	8-729-901-01	TRANSISTOR DTC144EK							
JR002	1-216-295-00	METAL GLAZE	0	5%	1/10W	Q014	8-729-216-22	TRANSISTOR 2SA1162							
JR003	1-216-295-00	METAL GLAZE	0	5%	1/10W	<u>RESISTOR</u>									
JR004	1-216-295-00	METAL GLAZE	0	5%	1/10W	R001	1-216-295-00	METAL GLAZE	0	5%	1/10W				
JR005	1-216-295-00	METAL GLAZE	0	5%	1/10W	R002	1-216-295-00	METAL GLAZE	0	5%	1/10W				
JR006	1-216-295-00	METAL GLAZE	0	5%	1/10W	R003	1-216-295-00	METAL GLAZE	0	5%	1/10W				
JR008	1-216-295-00	METAL GLAZE	0	5%	1/10W	R004	1-216-212-00	METAL GLAZE	3.9K	5%	1/8W				
JR011	1-216-295-00	METAL GLAZE	0	5%	1/10W	R005	1-216-210-00	METAL GLAZE	3.3K	5%	1/8W				
JR012	1-216-295-00	METAL GLAZE	0	5%	1/10W	R008	1-216-025-00	METAL GLAZE	100	5%	1/10W				
JR013	1-216-296-00	METAL GLAZE	0	5%	1/8W	R009	1-216-070-00	METAL GLAZE	7.5K	5%	1/10W				
JR014	1-216-296-00	METAL GLAZE	0	5%	1/8W	R010	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W				
JR015	1-216-296-00	METAL GLAZE	0	5%	1/8W	R011	1-216-037-00	METAL GLAZE	330	5%	1/10W				
JR016	1-216-296-00	METAL GLAZE	0	5%	1/8W	R012	1-216-039-00	METAL GLAZE	390	5%	1/10W				
JR017	1-216-296-00	METAL GLAZE	0	5%	1/8W	R013	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W				
JR018	1-216-296-00	METAL GLAZE	0	5%	1/8W	R014	1-216-121-00	METAL GLAZE	1M	5%	1/10W				
JR019	1-216-296-00	METAL GLAZE	0	5%	1/8W	R015	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W				
JR020	1-216-296-00	METAL GLAZE	0	5%	1/8W	R016	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W				
JR021	1-216-296-00	METAL GLAZE	0	5%	1/8W	R017	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W				
JR023	1-216-296-00	METAL GLAZE	0	5%	1/8W	R018	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W				
JR025	1-216-296-00	METAL GLAZE	0	5%	1/8W	R021	1-216-295-00	METAL GLAZE	0	5%	1/10W				
JR027	1-216-296-00	METAL GLAZE	0	5%	1/8W	R022	1-216-748-11	METAL GLAZE	39K	5%	1/10W				
JR032	1-216-296-00	METAL GLAZE	0	5%	1/8W	R023	1-216-091-00	METAL GLAZE	56K	5%	1/10W				
JR033	1-216-296-00	METAL GLAZE	0	5%	1/8W	R024	1-216-295-00	METAL GLAZE	0	5%	1/10W				
JR034	1-216-296-00	METAL GLAZE	0	5%	1/8W	R025	1-216-295-00	METAL GLAZE	0	5%	1/10W				
JR035	1-216-296-00	METAL GLAZE	0	5%	1/8W	R029	1-216-295-00	METAL GLAZE	0	5%	1/10W				
JR036	1-216-296-00	METAL GLAZE	0	5%	1/8W	R034	1-216-295-00	METAL GLAZE	0	5%	1/10W				
JR038	1-216-296-00	METAL GLAZE	0	5%	1/8W	R044	1-216-295-00	METAL GLAZE	0	5%	1/10W				
JR039	1-216-296-00	METAL GLAZE	0	5%	1/8W	R047	1-216-295-00	METAL GLAZE	0	5%	1/10W				
JR040	1-216-296-00	METAL GLAZE	0	5%	1/8W	R065	1-216-295-00	METAL GLAZE	0	5%	1/10W				
<u>COIL</u>						R067	1-216-295-00	METAL GLAZE	0	5%	1/10W				
L001	1-408-413-00	INDUCTOR	22UH			R068	1-216-295-00	METAL GLAZE	0	5%	1/10W				
L002	1-408-411-00	INDUCTOR	15UH			R069	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W				
L003	1-408-408-00	INDUCTOR	8.2UH			R070	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W				
L004	1-408-408-00	INDUCTOR	8.2UH			R072	1-216-295-00	METAL GLAZE	0	5%	1/10W				
						R073	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W				
						R076	1-216-295-00	METAL GLAZE	0	5%	1/10W				
						R077	1-216-064-00	METAL GLAZE	4.3K	5%	1/10W				
						R078	1-216-049-00	METAL GLAZE	1K	5%	1/10W				
						R079	1-216-089-00	METAL GLAZE	47K	5%	1/10W				

When indicating parts by reference number, please include the board name.

**TU-100****PC-50**

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R080	1-216-089-00	METAL GLAZE	47K 5% 1/10W	C536	1-163-035-00	CERAMIC CHIP 0.047MF	50V
R083	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C537	1-164-232-11	CERAMIC CHIP 0.01MF	50V
R090	1-216-089-00	METAL GLAZE	47K 5% 1/10W	C538	1-164-232-11	CERAMIC CHIP 0.01MF	50V
R092	1-216-295-00	METAL GLAZE	0 5% 1/10W	C539	1-164-232-11	CERAMIC CHIP 0.01MF	50V
R096	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C540	1-164-232-11	CERAMIC CHIP 0.01MF	50V
<u>VARIABLE RESISTOR</u>							
RV001	1-228-995-00	RES, ADJ, CARBON 22K		C542	1-164-232-11	CERAMIC CHIP 0.01MF	10%
<u>TUNER</u>							
TU001 A1-465-260-11 TUNER, ET (BTP-2C401)							
*****							
*A-7062-457-A PC-50 BOARD, COMPLETE (Ref.No 4,000 Series)							
<u>CAPACITOR</u>							
C152	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C602	1-126-176-11	ELECT 220MF	20%
C401	1-126-233-11	ELECT 22MF	20% 25V	C603	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C402	1-126-233-11	ELECT 22MF	20% 25V	C604	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C403	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C611	1-124-791-11	ELECT 1MF	20%
C404	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C612	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C407	1-163-093-00	CERAMIC CHIP 10PF	5% 50V	C613	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C408	1-163-093-00	CERAMIC CHIP 10PF	5% 50V	C614	1-124-791-11	ELECT 1MF	20% 50V
C409	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C615	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C410	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C616	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C411	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C617	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C412	1-124-126-00	ELECT 47MF	20% 10V	C618	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C413	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C619	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C414	1-124-443-00	ELECT 100MF	20% 6.3V	C620	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C420	1-126-233-11	ELECT 22MF	20% 25V	C621	1-126-176-11	ELECT 220MF	20% 6.3V
C421	1-126-233-11	ELECT 22MF	20% 25V	C623	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C501	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C624	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C502	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C625	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C503	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C626	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C504	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C627	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C505	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C628	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C506	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C629	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C507	1-124-239-00	ELECT 6.8MF	20% 25V	C630	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C508	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C631	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C510	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C632	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C516	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C633	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C517	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C634	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C518	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C635	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C519	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C636	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C520	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C640	1-126-157-11	ELECT 10MF	20% 16V
C521	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C641	1-124-126-00	ELECT 47MF	20% 10V
C522	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C642	1-124-126-00	ELECT 47MF	20% 10V
C523	1-163-011-11	CERAMIC CHIP 0.0015MF	10% 50V	C643	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C530	1-163-121-00	CERAMIC CHIP 150PF	5% 50V	C644	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C531	1-124-927-11	ELECT 4.7MF	20% 50V	C645	1-163-124-00	CERAMIC CHIP 200PF	5% 50V
C535	1-123-875-11	ELECT 10MF	20% 50V	C646	1-124-925-11	ELECT 2.2MF	20% 50V
				C647	1-124-464-11	ELECT 0.22MF	20% 50V
				C648	1-131-377-00	TANTALUM 10MF	10% 3.15V
				C649	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
				C650	1-124-927-11	ELECT 4.7MF	20% 50V
				C651	1-124-126-00	ELECT 47MF	20% 10V
				C654	1-126-157-11	ELECT 10MF	20% 16V
				C655	1-124-126-00	ELECT 47MF	20% 10V
				C656	1-124-126-00	ELECT 47MF	20% 10V
				C657	1-124-126-00	ELECT 47MF	20% 10V

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark	
C658	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	C763	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C659	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	C764	1-164-004-11	CERAMIC CHIP 0.1MF	25V
C660	1-163-124-00	CERAMIC CHIP 200PF	5%	50V	C765	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C661	1-124-925-11	ELECT 2.2MF	20%	50V	C766	1-163-137-00	CERAMIC CHIP 680PF	5%
C662	1-124-464-11	ELECT 0.22MF	20%	50V	C767	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C663	1-131-377-00	TANTALUM 10MF	10%	3.15V	C768	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C664	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V	C769	1-124-443-00	ELECT 100MF	20% 6.3V
C665	1-124-927-11	ELECT 4.7MF	20%	50V	C771	1-124-126-00	ELECT 47MF	20% 10V
C666	1-124-126-00	ELECT 47MF	20%	10V	C772	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C669	1-124-443-00	ELECT 100MF	20%	6.3V	C773	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C671	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	C775	1-164-232-11	CERAMIC CHIP 0.01MF	10%
C672	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C801	1-163-035-00	CERAMIC CHIP 0.047MF	50V	
C673	1-123-875-11	ELECT 10MF	20%	50V	C802	1-124-443-00	ELECT 100MF	20% 6.3V
C674	1-123-875-11	ELECT 10MF	20%	50V	C803	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C703	1-123-875-11	ELECT 10MF	20%	50V	C804	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C704	1-126-157-11	ELECT 10MF	20%	16V	C805	1-164-232-11	CERAMIC CHIP 0.01MF	10%
C705	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	C806	1-124-791-11	ELECT 1MF	20% 50V
C706	1-124-443-00	ELECT 100MF	20%	6.3V	C807	1-163-137-00	CERAMIC CHIP 680PF	5% 50V
C707	1-124-443-00	ELECT 100MF	20%	6.3V	C808	1-124-902-00	ELECT 0.47MF	20% 50V
C708	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C809	1-163-011-11	CERAMIC CHIP 0.0015MF	10% 50V	
C710	1-124-443-00	ELECT 100MF	20%	6.3V	C810	1-163-016-00	CERAMIC CHIP 0.0039MF	10% 50V
C712	1-126-157-11	ELECT 10MF	20%	16V	C811	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
C713	1-126-157-11	ELECT 10MF	20%	16V	C812	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
C714	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	C813	1-124-443-00	ELECT 100MF	20% 6.3V
C715	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C814	1-163-035-00	CERAMIC CHIP 0.047MF	50V	
C716	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C815	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	
C717	1-124-443-00	ELECT 100MF	20%	6.3V	C816	1-124-925-11	ELECT 2.2MF	20% 50V
C731	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C817	1-163-088-00	CERAMIC CHIP 5PF	0.25PF 50V	
C734	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V	C818	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C735	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C819	1-163-005-11	CERAMIC CHIP 470PF	10% 50V	
C736	1-124-443-00	ELECT 100MF	20%	6.3V	C821	1-124-791-11	ELECT 1MF	20% 50V
C737	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	C822	1-163-088-00	CERAMIC CHIP 5PF	0.25PF 50V
C739	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C823	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	
C740	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C824	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	
C741	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C825	1-162-587-11	CERAMIC CHIP 0.039MF	10% 25V	
C742	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C826	1-163-137-00	CERAMIC CHIP 680PF	5% 50V	
C743	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C827	1-163-020-00	CERAMIC CHIP 0.0082MF	10% 50V	
C744	1-163-093-00	CERAMIC CHIP 10PF	5%	50V	C828	1-124-444-11	ELECT 0.22MF	20% 50V
C745	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C829	1-131-377-00	TANTALUM 10MF	10% 3.15V	
C746	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	C830	1-123-875-11	ELECT 10MF	20% 50V
C747	1-163-115-00	CERAMIC CHIP 82PF	5%	50V	C831	1-126-233-11	ELECT 22MF	20% 25V
C748	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C832	1-124-443-00	ELECT 100MF	20% 6.3V	
C749	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C833	1-163-035-00	CERAMIC CHIP 0.047MF	50V	
C750	1-126-177-11	ELECT 100MF	20%	6.3V	C834	1-124-443-00	ELECT 100MF	20% 6.3V
C752	1-126-157-11	ELECT 10MF	20%	16V	C836	1-163-123-00	CERAMIC CHIP 180PF	5% 50V
C755	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C837	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	
C756	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C838	1-163-011-11	CERAMIC CHIP 0.0015MF	10% 50V	
C757	1-124-499-11	ELECT 1MF	20%	50V	C840	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C758	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	C841	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C759	1-163-227-11	CERAMIC CHIP 10PF	5%	50V	C850	1-123-875-11	ELECT 10MF	20% 50V
C760	1-163-091-00	CERAMIC CHIP 8PF	0.25PF	50V	C851	1-123-875-11	ELECT 10MF	20% 50V
C761	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C852	1-123-875-11	ELECT 10MF	20% 50V	
C762	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C854	1-123-875-11	ELECT 10MF	20% 50V	

When indicating parts by reference number, please include the board name.

# PC-50

<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>		<u>Remark</u>	<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>		<u>Remark</u>		
C855	1-123-875-11	ELECT	10MF	20%	50V	C951	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C856	1-123-875-11	ELECT	10MF	20%	50V	C952	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C857	1-163-035-00	CERAMIC CHIP	0.047MF			C953	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C858	1-124-927-11	ELECT	4.7MF	20%	50V	C954	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C859	1-124-126-00	ELECT	4.7MF	20%	10V	C955	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C860	1-123-875-11	ELECT	10MF	20%	50V	C956	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	
C861	1-123-875-11	ELECT	10MF	20%	50V	C957	1-123-875-11	ELECT	10MF	20%	50V
C862	1-124-126-00	ELECT	4.7MF	20%	10V						
C865	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V						
C866	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V						
C867	1-163-016-00	CERAMIC CHIP	0.0039MF	10%	50V	CN601	1-568-084-11	CONNECTOR (RECEPTALE) 30P			
C868	1-163-016-00	CERAMIC CHIP	0.0039MF	10%	50V	CN602	1-568-084-11	CONNECTOR (RECEPTALE) 30P			
C869	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	CN603	1-506-477-11	PIN, CONNECTOR 12P			
C870	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	CN604	1-506-470-11	PIN, CONNECTOR 5P			
C871	1-123-875-11	ELECT	10MF	20%	50V	CN605	1-506-471-11	PIN, CONNECTOR 6P			
C880	1-164-232-11	CERAMIC CHIP	0.01MF		50V	CN606	1-506-468-11	PIN, CONNECTOR 3P			
C901	1-163-035-00	CERAMIC CHIP	0.047MF		50V	CN701	1-506-468-11	PIN, CONNECTOR 3P			
C902	1-124-443-00	ELECT	100MF	20%	6.3V						
C903	1-164-232-11	CERAMIC CHIP	0.01MF		50V	CV701	1-141-227-00	CAP, CERAMIC TRIMMER 20PF			
C904	1-164-232-11	CERAMIC CHIP	0.01MF		50V						
C905	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V						
C906	1-124-791-11	ELECT	1MF	20%	50V						
C907	1-163-137-00	CERAMIC CHIP	680PF	5%	50V	D401	8-719-400-18	DIODE MA152WK			
C908	1-124-902-00	ELECT	0.47MF	20%	50V	D501	8-719-104-34	DIODE 1S2836			
C909	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V	D502	8-719-400-18	DIODE MA152WK			
C910	1-163-016-00	CERAMIC CHIP	0.0039MF	10%	50V	D503	8-719-800-76	DIODE 1SS226			
C911	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	D610	8-719-104-34	DIODE 1S2836			
C912	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	D702	8-719-400-18	DIODE MA152WK			
C913	1-124-443-00	ELECT	100MF	20%	6.3V	D703	8-713-300-88	DIODE 1T33C-01			
C914	1-163-035-00	CERAMIC CHIP	0.047MF		50V	D704	8-719-104-34	DIODE 1S2836			
C915	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	D850	8-719-104-34	DIODE 1S2836			
C916	1-124-925-11	ELECT	2.2MF	20%	50V	D851	8-719-800-76	DIODE 1SS226			
C917	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V	D852	8-719-800-76	DIODE 1SS226			
C919	1-163-005-11	CERAMIC CHIP	470PF	10%	50V						
C921	1-124-791-11	ELECT	1MF	20%	50V						
C922	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V	FL601	1-236-043-11	FILTER, LOW PASS			
C923	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	FL602	1-236-043-11	FILTER, LOW PASS			
C924	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	FL801	1-236-551-11	BPF			
C925	1-162-587-11	CERAMIC CHIP	0.039MF	10%	25V	FL901	1-236-550-11	BPF			
C926	1-163-137-00	CERAMIC CHIP	680PF	5%	50V						
C927	1-163-020-00	CERAMIC CHIP	0.0082MF	10%	50V						
C928	1-124-464-11	ELECT	0.22MF	20%	50V	IC401	8-752-334-42	IC CXD2106Q			
C929	1-131-377-00	TANTALUM	10MF	10%	3.15V	IC501	8-759-100-93	IC UPC393G2			
C930	1-123-875-11	ELECT	10MF	20%	50V	IC602	8-759-111-56	IC UPC4572G2			
C931	1-126-233-11	ELECT	22MF	20%	25V	IC603	8-759-009-07	IC MC14053BF			
C932	1-124-443-00	ELECT	100MF	20%	6.3V	IC604	8-759-111-56	IC UPC4572G2			
C933	1-163-035-00	CERAMIC CHIP	0.047MF		50V	IC605	8-759-009-06	IC MC14052BF			
C934	1-124-443-00	ELECT	100MF	20%	6.3V	IC606	8-759-111-56	IC UPC4572G2			
C936	1-163-123-00	CERAMIC CHIP	180PF	5%	50V	IC607	8-759-111-56	IC UPC4572G2			
C937	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	IC608	8-759-009-07	IC MC14053BF			
C938	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V	IC609	8-759-009-07	IC MC14053BF			
C940	1-164-232-11	CERAMIC CHIP	0.01MF		50V	IC610	8-759-009-06	IC MC14052BF			
C941	1-164-232-11	CERAMIC CHIP	0.01MF		50V	IC611	8-759-009-06	IC MC14052BF			

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark		
IC612	8-759-009-07	IC MC14053BF		Q526	8-729-100-66	TRANSISTOR 2SC1623			
IC614	8-759-822-92	IC LA7451M		Q601	8-729-901-06	TRANSISTOR DTA144EK			
IC615	8-759-009-06	IC MC14052BF		Q602	8-729-116-05	TRANSISTOR 2SK160-K5			
IC701	8-752-322-57	IC CXD1077M		Q603	8-729-116-05	TRANSISTOR 2SK160-K5			
IC703	8-752-332-46	IC CXD1208Q		Q606	8-729-216-22	TRANSISTOR 2SA1162			
IC704	8-759-009-51	IC MC14538BF		Q607	8-729-216-22	TRANSISTOR 2SA1162			
IC705	8-759-927-98	IC MB8464-15LLPF		Q610	8-729-901-01	TRANSISTOR DTC144EK			
IC707	8-759-502-14	IC CF79050PV		Q611	8-729-100-66	TRANSISTOR 2SC1623			
IC708	8-752-010-20	IC CX20102		Q660	8-729-100-66	TRANSISTOR 2SC1623			
IC709	8-759-908-15	IC TL431CLP		Q703	8-729-100-66	TRANSISTOR 2SC1623			
IC801	8-752-033-01	IC CXA1237AR		Q705	8-729-100-66	TRANSISTOR 2SC1623			
IC850	8-759-111-56	IC UPC4572G2		Q706	8-729-100-66	TRANSISTOR 2SC1623			
IC901	8-752-033-01	IC CXA1237AR		Q707	8-729-100-66	TRANSISTOR 2SC1623			
IC902	8-759-009-06	IC MC14052BF		Q708	8-729-901-06	TRANSISTOR DTA144EK			
IC903	8-759-009-06	IC MC14052BF		Q709	8-729-100-66	TRANSISTOR 2SC1623			
IC904	8-759-111-56	IC UPC4572G2		Q720	8-729-901-01	TRANSISTOR DTC144EK			
IC905	8-759-111-56	IC UPC4572G2		Q721	8-729-901-01	TRANSISTOR DTC144EK			
IC906	8-759-111-56	IC UPC4572G2		Q801	8-729-901-01	TRANSISTOR DTC144EK			
<u>COIL</u>									
L401	1-407-169-XX	INDUCTOR	100UH	Q851	8-729-902-96	TRANSISTOR FMS1			
L501	1-408-978-21	INDUCTOR	47UH	Q852	8-729-904-04	TRANSISTOR FMS2			
L702	1-408-970-21	INDUCTOR	10UH	Q853	8-729-100-66	TRANSISTOR 2SC1623			
L704	1-407-169-XX	INDUCTOR	100UH	Q854	8-729-100-66	TRANSISTOR 2SC1623			
L705	1-407-169-XX	INDUCTOR	100UH	Q855	8-729-100-66	TRANSISTOR 2SC1623			
L706	1-408-970-21	INDUCTOR	10UH	Q856	8-729-100-66	TRANSISTOR 2SC1623			
L707	1-408-970-21	INDUCTOR	10UH	Q901	8-729-901-01	TRANSISTOR DTC144EK			
L801	1-407-169-XX	INDUCTOR	100UH	Q902	8-729-901-01	TRANSISTOR DTC144EK			
L802	1-408-948-00	INDUCTOR	220UH	Q940	8-729-100-66	TRANSISTOR 2SC1623			
L901	1-407-169-XX	INDUCTOR	100UH	<u>RESISTOR</u>					
L902	1-408-948-00	INDUCTOR	220UH	R150	1-216-057-00	METAL GLAZE	2.2K 5%	1/10W	
<u>TRANSISTOR</u>									
Q501	8-729-100-66	TRANSISTOR 2SC1623		R151	1-216-025-00	METAL GLAZE	100 5%	1/10W	
Q502	8-729-901-01	TRANSISTOR DTC144EK		R155	1-216-295-00	METAL GLAZE	0 5%	1/10W	
Q503	8-729-100-66	TRANSISTOR 2SC1623		R158	1-216-295-00	METAL GLAZE	0 5%	1/10W	
Q504	8-729-902-XX	TRANSISTOR DTC114TK		R401	1-216-077-00	METAL GLAZE	15K 5%	1/10W	
Q505	8-729-901-01	TRANSISTOR DTC144EK		R402	1-216-077-00	METAL GLAZE	15K 5%	1/10W	
Q506	8-729-216-22	TRANSISTOR 2SA1162		R403	1-216-085-00	METAL GLAZE	33K 5%	1/10W	
Q508	8-729-100-66	TRANSISTOR 2SC1623		R404	1-216-075-00	METAL GLAZE	12K 5%	1/10W	
Q509	8-729-903-10	TRANSISTOR FMW1		R405	1-216-075-00	METAL GLAZE	12K 5%	1/10W	
Q511	8-729-100-66	TRANSISTOR 2SC1623		R406	1-216-097-00	METAL GLAZE	100K 5%	1/10W	
Q512	8-729-100-66	TRANSISTOR 2SC1623		R407	1-216-097-00	METAL GLAZE	100K 5%	1/10W	
Q514	8-729-216-22	TRANSISTOR 2SA1162		R408	1-216-097-00	METAL GLAZE	100K 5%	1/10W	
Q515	8-729-100-66	TRANSISTOR 2SC1623		R409	1-216-097-00	METAL GLAZE	100K 5%	1/10W	
Q516	8-729-100-66	TRANSISTOR 2SC1623		R412	1-216-025-00	METAL GLAZE	100 5%	1/10W	
Q517	8-729-100-66	TRANSISTOR 2SC1623		R413	1-216-097-00	METAL GLAZE	100K 5%	1/10W	
Q518	8-729-901-06	TRANSISTOR DTA144EK		R501	1-216-049-00	METAL GLAZE	1K 5%	1/10W	
Q520	8-729-901-01	TRANSISTOR DTC144EK		R502	1-216-061-00	METAL GLAZE	3.3K 5%	1/10W	
Q521	8-729-901-06	TRANSISTOR DTA144EK		R503	1-216-057-00	METAL GLAZE	2.2K 5%	1/10W	
Q522	8-729-901-01	TRANSISTOR DTC144EK		R504	1-216-069-00	METAL GLAZE	6.8K 5%	1/10W	
Q523	8-729-901-01	TRANSISTOR DTC144EK		R505	1-216-040-00	METAL GLAZE	430 5%	1/10W	
Q524	8-729-100-66	TRANSISTOR 2SC1623		R506	1-216-031-00	METAL GLAZE	180 5%	1/10W	
				R507	1-216-079-00	METAL GLAZE	18K 5%	1/10W	

When indicating parts by reference number, please include the board name.

# PC-50

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R508	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R616	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W
R509	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R617	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W
R510	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R618	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W
R511	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R619	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W
R512	1-216-083-00	METAL GLAZE	2.7K 5% 1/10W	R621	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W
R513	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R622	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W
R514	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R623	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R515	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R624	1-216-025-00	METAL GLAZE	100 5% 1/10W
R516	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R625	1-216-083-00	METAL GLAZE	2.7K 5% 1/10W
R517	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R626	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R519	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R627	1-216-033-00	METAL GLAZE	220 5% 1/10W
R520	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R628	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R523	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R629	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R524	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R630	1-216-025-00	METAL GLAZE	100 5% 1/10W
R526	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R631	1-216-083-00	METAL GLAZE	2.7K 5% 1/10W
R529	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R632	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R530	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R633	1-216-033-00	METAL GLAZE	220 5% 1/10W
R531	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R634	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R532	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R635	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R533	1-216-041-00	METAL GLAZE	470 5% 1/10W	R636	1-216-025-00	METAL GLAZE	100 5% 1/10W
R534	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R637	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R535	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R638	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R536	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R639	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R537	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R640	1-216-033-00	METAL GLAZE	220 5% 1/10W
R538	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R641	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R539	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R642	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R540	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R643	1-216-025-00	METAL GLAZE	100 5% 1/10W
R542	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R644	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R543	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R645	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R545	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W	R646	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R546	1-216-076-00	METAL GLAZE	13K 5% 1/10W	R647	1-216-033-00	METAL GLAZE	220 5% 1/10W
R548	1-216-076-00	METAL GLAZE	13K 5% 1/10W	R648	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R549	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R649	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W
R550	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R654	1-216-295-00	METAL GLAZE	0 5% 1/10W
R551	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R661	1-216-099-00	METAL GLAZE	120K 5% 1/10W
R570	1-216-033-00	METAL GLAZE	220 5% 1/10W	R663	1-216-025-00	METAL GLAZE	100 5% 1/10W
R571	1-216-031-00	METAL GLAZE	180 5% 1/10W	R664	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R572	1-216-295-00	METAL GLAZE	0 5% 1/10W	R665	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R580	1-216-025-00	METAL GLAZE	100 5% 1/10W	R666	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R581	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R667	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R582	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R668	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R583	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R670	1-216-039-00	METAL GLAZE	390 5% 1/10W
R584	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R671	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R585	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R672	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R586	1-216-041-00	METAL GLAZE	470 5% 1/10W	R677	1-216-025-00	METAL GLAZE	100 5% 1/10W
R607	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R678	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R608	1-216-105-00	METAL GLAZE	220K 5% 1/10W	R679	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R609	1-216-105-00	METAL GLAZE	220K 5% 1/10W	R680	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R610	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R681	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R611	1-216-105-00	METAL GLAZE	220K 5% 1/10W	R682	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R612	1-216-105-00	METAL GLAZE	220K 5% 1/10W	R689	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R613	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R690	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R614	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R691	1-216-077-00	METAL GLAZE	15K 5% 1/10W

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R693	1-216-001-00	METAL GLAZE	10 5% 1/10W	R762	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R695	1-216-025-00	METAL GLAZE	100 5% 1/10W	R763	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R696	1-216-025-00	METAL GLAZE	100 5% 1/10W	R764	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R697	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R768	1-216-105-00	METAL GLAZE	220K 5% 1/10W
R698	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R769	1-216-105-00	METAL GLAZE	220K 5% 1/10W
R701	1-216-029-00	METAL GLAZE	150 5% 1/10W	R770	1-216-295-00	METAL GLAZE	0 5% 1/10W
R702	1-216-653-11	METAL CHIP	1.2K 0.50% 1/10W	R771	1-216-105-00	METAL GLAZE	220K 5% 1/10W
R703	1-216-661-11	METAL CHIP	2.7K 0.50% 1/10W	R773	1-216-295-00	METAL GLAZE	0 5% 1/10W
R704	1-216-022-00	METAL GLAZE	75 5% 1/10W	R774	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W
R705	1-216-039-00	METAL GLAZE	390 5% 1/10W	R775	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R706	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R776	1-216-089-00	METAL GLAZE	4.7K 5% 1/10W
R707	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R777	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R708	1-216-748-11	METAL GLAZE	39K 5% 1/10W	R780	1-216-045-00	METAL GLAZE	680 5% 1/10W
R709	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R781	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R710	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R782	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R712	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R783	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R713	1-216-748-11	METAL GLAZE	39K 5% 1/10W	R784	1-216-025-00	METAL GLAZE	100 5% 1/10W
R714	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R785	1-216-025-00	METAL GLAZE	100 5% 1/10W
R715	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R787	1-216-295-00	METAL GLAZE	0 5% 1/10W
R717	1-216-117-00	METAL GLAZE	680K 5% 1/10W	R788	1-216-295-00	METAL GLAZE	0 5% 1/10W
R718	1-216-105-00	METAL GLAZE	220K 5% 1/10W	R789	1-216-105-00	METAL GLAZE	220K 5% 1/10W
R720	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R790	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R721	1-216-101-00	METAL GLAZE	150K 5% 1/10W	R791	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R723	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R792	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R724	1-216-295-00	METAL GLAZE	0 5% 1/10W	R793	1-216-001-00	METAL GLAZE	10 5% 1/10W
R725	1-216-295-00	METAL GLAZE	0 5% 1/10W	R794	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R726	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R797	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R727	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R798	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R729	1-216-295-00	METAL GLAZE	0 5% 1/10W	R799	1-216-029-00	METAL GLAZE	150 5% 1/10W
R730	1-216-295-00	METAL GLAZE	0 5% 1/10W	R801	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R732	1-216-677-11	METAL CHIP	12K 0.50% 1/10W	R802	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R734	1-216-295-00	METAL GLAZE	0 5% 1/10W	R803	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R736	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R804	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R738	1-216-017-00	METAL GLAZE	47 5% 1/10W	R805	1-216-295-00	METAL GLAZE	0 5% 1/10W
R739	1-216-645-11	METAL CHIP	560 0.50% 1/10W	R806	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R740	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R807	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R741	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R808	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R742	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R809	1-216-075-00	METAL GLAZE	12K 5% 1/10W
R746	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R810	1-216-121-00	METAL GLAZE	1M 5% 1/10W
R748	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R811	1-216-107-00	METAL GLAZE	270K 5% 1/10W
R749	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R812	1-216-046-00	METAL GLAZE	750 5% 1/10W
R750	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R813	1-216-046-00	METAL GLAZE	750 5% 1/10W
R751	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R814	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R752	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R815	1-216-075-00	METAL GLAZE	12K 5% 1/10W
R753	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R816	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R754	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R817	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R755	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R818	1-216-045-00	METAL GLAZE	680 5% 1/10W
R756	1-216-025-00	METAL GLAZE	100 5% 1/10W	R819	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R757	1-216-037-00	METAL GLAZE	330 5% 1/10W	R820	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R758	1-216-029-00	METAL GLAZE	150 5% 1/10W	R821	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R759	1-216-045-00	METAL GLAZE	680 5% 1/10W	R822	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R760	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R823	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R761	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R824	1-216-079-00	METAL GLAZE	18K 5% 1/10W

When indicating parts by reference number, please include the board name.

# PC-50

Ref.No	Part No.	Description					Remark	Ref.No	Part No.	Description					Remark
R827	1-216-089-00	METAL GLAZE	4.7K	5%	1/10W			R911	1-216-107-00	METAL GLAZE	270K	5%	1/10W		
R828	1-216-089-00	METAL GLAZE	4.7K	5%	1/10W			R912	1-216-047-00	METAL GLAZE	820	5%	1/10W		
R829	1-216-079-00	METAL GLAZE	18K	5%	1/10W			R913	1-216-047-00	METAL GLAZE	820	5%	1/10W		
R830	1-216-083-00	METAL GLAZE	27K	5%	1/10W			R915	1-216-075-00	METAL GLAZE	12K	5%	1/10W		
R831	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W			R916	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W		
R833	1-216-047-00	METAL GLAZE	820	5%	1/10W			R917	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W		
R840	1-216-049-00	METAL GLAZE	1K	5%	1/10W			R918	1-216-045-00	METAL GLAZE	680	5%	1/10W		
R841	1-216-105-00	METAL GLAZE	220K	5%	1/10W			R919	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W		
R842	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W			R920	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W		
R850	1-216-075-00	METAL GLAZE	12K	5%	1/10W			R921	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W		
R851	1-216-043-00	METAL GLAZE	560	5%	1/10W			R922	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W		
R852	1-216-049-00	METAL GLAZE	1K	5%	1/10W			R923	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R853	1-216-073-00	METAL GLAZE	10K	5%	1/10W			R924	1-216-079-00	METAL GLAZE	18K	5%	1/10W		
R854	1-216-075-00	METAL GLAZE	12K	5%	1/10W			R927	1-216-079-00	METAL GLAZE	18K	5%	1/10W		
R855	1-216-043-00	METAL GLAZE	560	5%	1/10W			R928	1-216-089-00	METAL GLAZE	4.7K	5%	1/10W		
R856	1-216-049-00	METAL GLAZE	1K	5%	1/10W			R929	1-216-079-00	METAL GLAZE	18K	5%	1/10W		
R857	1-216-073-00	METAL GLAZE	10K	5%	1/10W			R930	1-216-083-00	METAL GLAZE	27K	5%	1/10W		
R858	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W			R931	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W		
R859	1-215-085-00	METAL GLAZE	33K	5%	1/10W			R933	1-216-047-00	METAL GLAZE	820	5%	1/10W		
R860	1-216-085-00	METAL GLAZE	33K	5%	1/10W			R940	1-216-049-00	METAL GLAZE	1K	5%	1/10W		
R861	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W			R941	1-216-105-00	METAL GLAZE	220K	5%	1/10W		
R862	1-216-109-00	METAL GLAZE	330K	5%	1/10W			R942	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W		
R863	1-216-121-00	METAL GLAZE	1M	5%	1/10W			R952	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R864	1-216-121-00	METAL GLAZE	1M	5%	1/10W			R953	1-216-074-00	METAL GLAZE	11K	5%	1/10W		
R865	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W			R954	1-216-081-00	METAL GLAZE	22K	5%	1/10W		
R866	1-216-081-00	METAL GLAZE	22K	5%	1/10W			R955	1-216-079-00	METAL GLAZE	18K	5%	1/10W		
R867	1-216-081-00	METAL GLAZE	22K	5%	1/10W			R956	1-216-085-00	METAL GLAZE	33K	5%	1/10W		
R868	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W			R957	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R869	1-216-079-00	METAL GLAZE	18K	5%	1/10W			R958	1-216-085-00	METAL GLAZE	33K	5%	1/10W		
R870	1-216-079-00	METAL GLAZE	18K	5%	1/10W			R959	1-216-081-00	METAL GLAZE	22K	5%	1/10W		
R871	1-216-081-00	METAL GLAZE	22K	5%	1/10W			R960	1-216-081-00	METAL GLAZE	22K	5%	1/10W		
R872	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W			R961	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R873	1-216-089-00	METAL GLAZE	4.7K	5%	1/10W			R962	1-216-081-00	METAL GLAZE	22K	5%	1/10W		
R874	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W			R963	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W		
R875	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W			R964	1-216-075-00	METAL GLAZE	12K	5%	1/10W		
R876	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W			R965	1-216-074-00	METAL GLAZE	11K	5%	1/10W		
R877	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W			R966	1-216-081-00	METAL GLAZE	22K	5%	1/10W		
R878	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W			R967	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R879	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W			R968	1-216-081-00	METAL GLAZE	22K	5%	1/10W		
R880	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W			R969	1-216-085-00	METAL GLAZE	33K	5%	1/10W		
R881	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W			R970	1-216-085-00	METAL GLAZE	33K	5%	1/10W		
R885	1-216-097-00	METAL GLAZE	100K	5%	1/10W			R971	1-216-081-00	METAL GLAZE	22K	5%	1/10W		
R886	1-216-089-00	METAL GLAZE	4.7K	5%	1/10W			R972	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R901	1-216-049-00	METAL GLAZE	1K	5%	1/10W			R973	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R902	1-216-049-00	METAL GLAZE	1K	5%	1/10W			R984	1-216-097-00	METAL GLAZE	100K	5%	1/10W		
R903	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W										
R904	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W										
R905	1-216-295-00	METAL GLAZE	0	5%	1/10W										
R906	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W										
R907	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W										
R908	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W										
R909	1-216-049-00	METAL GLAZE	1K	5%	1/10W										
R910	1-216-121-00	METAL GLAZE	1M	5%	1/10W										
<b>VARIABLE RESISTOR</b>															
RV701	1-228-995-00	RES, ADJ, CARBON	22K					RV702	1-228-995-00	RES, ADJ, CARBON	22K				
RV702	1-228-995-00	RES, ADJ, CARBON	22K					RV703	1-228-999-00	RES, ADJ, CARBON	470K				
RV703	1-228-999-00	RES, ADJ, CARBON	470K					RV705	1-228-999-00	RES, ADJ, CARBON	470K				
RV705	1-228-999-00	RES, ADJ, CARBON	470K					RV707	1-228-991-00	RES, ADJ, CARBON	2.2K				
RV707	1-228-991-00	RES, ADJ, CARBON	2.2K					RV801	1-228-994-00	RES, ADJ, CARBON	10K				

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark				
RV802	1-228-996-00	RES, ADJ, CARBON 47K		C030	1-163-117-00	CERAMIC CHIP 100PF	5% 50V				
RV901	1-228-994-00	RES, ADJ, CARBON 10K		C031	1-163-117-00	CERAMIC CHIP 100PF	5% 50V				
RV902	1-228-995-00	RES, ADJ, CARBON 22K		C032	1-126-301-11	ELECT 1MF	20% 50V				
RV951	1-228-994-00	RES, ADJ, CARBON 10K		C033	1-126-301-11	ELECT 1MF	20% 50V				
RV951	*3-710-578-01	COVER, VOLUME, 6 MOLD		C034	1-126-301-11	ELECT 1MF	20% 50V				
RV952	1-228-995-00	RES, ADJ, CARBON 22K		C035	1-126-301-11	ELECT 1MF	20% 50V				
RV952	*3-710-578-01	COVER, VOLUME, 6 MOLD		C036	1-126-177-11	ELECT 100MF	20% 6.3V				
RV953	1-228-994-00	RES, ADJ, CARBON 10K		C037	1-126-177-11	ELECT 100MF	20% 6.3V				
RV953	*3-710-578-01	COVER, VOLUME, 6 MOLD		C038	1-163-123-00	CERAMIC CHIP 180PF	5% 50V				
RV954	1-228-995-00	RES, ADJ, CARBON 22K		C039	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V				
RV954	*3-710-578-01	COVER, VOLUME, 6 MOLD		C040	1-126-301-11	ELECT 1MF	20% 50V				
<u>CRYSTAL</u>											
X401	1-567-504-11	OSCILLATOR, CRYSTAL (4.43MHz)		C041	1-126-177-11	ELECT 100MF	20% 6.3V				
*****											
*A-7062-458-A ST-41 BOARD, COMPLETE (Ref.No 6,000 Series)				C042	1-163-123-00	CERAMIC CHIP 180PF	5% 50V				
				C043	1-126-301-11	ELECT 1MF	20% 50V				
				C044	1-126-157-11	ELECT 10MF	20% 16V				
*****											
<u>BUZZER</u>											
BZ001	1-529-070-11	BUZZER		CF001	1-567-192-11	OSCILLATOR, CERAMIC					
<u>CAPACITOR</u>											
C001	1-163-105-00	CERAMIC CHIP 33PF	5%	CF002	1-567-192-11	OSCILLATOR, CERAMIC					
C002	1-163-105-00	CERAMIC CHIP 33PF	5%	<u>CONNECTOR</u>							
C003	1-126-154-11	ELECT 47MF	20%	CN001	1-575-363-11	CONNECTOR, FPC/FFC 12P					
C004	1-161-772-11	CERAMIC 0.1MF	20%	CN002	1-575-364-11	CONNECTOR, FPC/FFC 14P					
C005	1-164-232-11	CERAMIC CHIP 0.01MF	50V	CN003	1-575-363-11	CONNECTOR, FPC/FFC 12P					
C006	1-124-261-00	ELECT 10MF	20%	CN004	1-506-482-11	PIN, CONNECTOR 3P					
C007	1-163-035-00	CERAMIC CHIP 0.047MF	50V	CN005	1-506-471-11	PIN, CONNECTOR 6P					
C008	1-164-232-11	CERAMIC CHIP 0.01MF	50V	CN006	1-506-470-11	PIN, CONNECTOR 5P					
C009	1-163-035-00	CERAMIC CHIP 0.047MF	50V	CN008	*1-562-639-11	SOCKET, CONNECTOR 10P					
C010	1-124-261-00	ELECT 10MF	20%	CN009	1-580-240-11	SOCKET, CONNECTOR 22P					
C011	1-163-035-00	CERAMIC CHIP 0.047MF	50V	CN011	1-565-510-11	SOCKET, CONNECTOR 16P					
C012	1-163-105-00	CERAMIC CHIP 33PF	5%	CN012	1-506-470-11	PIN, CONNECTOR 5P					
C013	1-163-105-00	CERAMIC CHIP 33PF	5%	CN013	1-590-019-11	CONNECTOR, FPC/FFC 5P					
C014	1-163-035-00	CERAMIC CHIP 0.047MF	50V	CN014	1-506-474-11	PIN, CONNECTOR 9P					
C015	1-164-004-11	CERAMIC CHIP 0.1MF	10%	CN015	1-506-467-11	PIN, CONNECTOR 2P					
C016	1-163-989-11	CERAMIC CHIP 0.033MF	10%	<u>DIODE</u>							
C017	1-163-038-00	CERAMIC CHIP 0.1MF	25V	D001	8-719-400-18	DIODE MA152WK					
C018	1-163-109-00	CERAMIC CHIP 47PF	5%	D002	8-719-400-18	DIODE MA152WK					
C019	1-163-109-00	CERAMIC CHIP 47PF	5%	D003	8-719-400-18	DIODE MA152WK					
C020	1-163-038-00	CERAMIC CHIP 0.1MF	25V	D025	8-719-911-19	DIODE 1SS119					
C021	1-126-157-11	ELECT 10MF	20%	<u>IC</u>							
C022	1-163-109-00	CERAMIC CHIP 47PF	5%	IC001	8-759-152-52	IC UPD-75116					
C023	1-163-109-00	CERAMIC CHIP 47PF	5%	IC002	8-759-147-30	IC UPD75004GB-VSX182					
C024	1-126-157-11	ELECT 10MF	20%	IC003	8-759-030-60	IC SDA5642					
C025	1-125-486-11	ELECT 0.22F	5.5V	IC004	8-759-932-54	IC MC14066BF					
C026	1-126-157-11	ELECT 10MF	20%	IC005	8-759-990-07	IC TL1596CNS					
C027	1-163-109-00	CERAMIC CHIP 47PF	5%	IC006	8-759-111-56	IC UPC4572G2					
C028	1-126-157-11	ELECT 10MF	20%	IC007	8-759-111-56	IC UPC4572G2					
C029	1-163-109-00	CERAMIC CHIP 47PF	5%	<u>When indicating parts by reference number, please include the board name.</u>							

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Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark				
IC008	8-759-111-56	IC UPC4572G2		JR50	1-216-296-00	METAL GLAZE	0 5% 1/8W				
IC009	8-759-111-56	IC UPC4572G2		JR51	1-216-296-00	METAL GLAZE	0 5% 1/8W				
<u>JUMPER RESISTOR</u>											
JR1	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR52	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR2	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR53	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR3	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR54	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR4	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR55	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR5	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR56	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR6	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR57	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR7	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR58	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR8	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR59	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR9	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR60	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR10	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR61	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR11	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR62	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR12	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR63	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR13	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR64	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR14	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR65	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR15	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR66	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR16	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR67	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR17	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR68	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR18	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR69	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR19	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR70	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR20	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR71	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR21	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR72	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR22	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR73	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR23	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR74	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR24	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR75	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR25	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR76	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR26	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR77	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR27	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR78	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR28	1-216-295-00	METAL GLAZE	0 5% 1/10W	JR79	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR29	1-216-296-00	METAL GLAZE	0 5% 1/8W	JR80	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR30	1-216-296-00	METAL GLAZE	0 5% 1/8W	JR81	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR31	1-216-296-00	METAL GLAZE	0 5% 1/8W	JR82	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR32	1-216-296-00	METAL GLAZE	0 5% 1/8W	JR83	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR33	1-216-296-00	METAL GLAZE	0 5% 1/8W	JR84	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR34	1-216-296-00	METAL GLAZE	0 5% 1/8W	JR85	1-216-296-00	METAL GLAZE	0 5% 1/8W				
JR35	1-216-296-00	METAL GLAZE	0 5% 1/8W	JR86	1-216-296-00	METAL GLAZE	0 5% 1/8W				
<u>COIL</u>											
JR36	1-216-296-00	METAL GLAZE	0 5% 1/8W	L001	1-408-421-00	INDUCTOR	100UH				
JR37	1-216-296-00	METAL GLAZE	0 5% 1/8W	L002	1-408-421-00	INDUCTOR	100UH				
JR38	1-216-296-00	METAL GLAZE	0 5% 1/8W	<u>TRANSISTOR</u>							
JR39	1-216-296-00	METAL GLAZE	0 5% 1/8W	Q001	8-729-901-04	TRANSISTOR DTA114EK					
JR40	1-216-296-00	METAL GLAZE	0 5% 1/8W	Q002	8-729-901-04	TRANSISTOR DTA114EK					
JR41	1-216-296-00	METAL GLAZE	0 5% 1/8W	Q003	8-729-100-66	TRANSISTOR 2SC1623					
JR42	1-216-296-00	METAL GLAZE	0 5% 1/8W	Q004	8-729-100-66	TRANSISTOR 2SC1623					
JR43	1-216-296-00	METAL GLAZE	0 5% 1/8W	Q005	8-729-100-66	TRANSISTOR 2SC1623					
JR44	1-216-296-00	METAL GLAZE	0 5% 1/8W	<u>RESISTOR</u>							
JR45	1-216-296-00	METAL GLAZE	0 5% 1/8W	R001	1-216-081-00	METAL GLAZE	22K 5% 1/10W				
JR46	1-216-296-00	METAL GLAZE	0 5% 1/8W	R002	1-216-017-00	METAL GLAZE	47 5% 1/10W				
JR47	1-216-296-00	METAL GLAZE	0 5% 1/8W	R003	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W				
JR48	1-216-296-00	METAL GLAZE	0 5% 1/8W								
JR49	1-216-296-00	METAL GLAZE	0 5% 1/8W								

When indicating parts by reference number, please include the board name.

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<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>	<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>												
R004	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	R058	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W												
R005	1-216-089-00	METAL GLAZE	47K	5%	1/10W	R059	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W												
R006	1-216-089-00	METAL GLAZE	47K	5%	1/10W	R060	1-216-073-00	METAL GLAZE	10K	5%	1/10W												
R007	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	R061	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W												
R008	1-216-089-00	METAL GLAZE	47K	5%	1/10W	R062	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W												
R009	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	R063	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W												
R010	1-216-089-00	METAL GLAZE	47K	5%	1/10W	R064	1-216-121-00	METAL GLAZE	1M	5%	1/10W												
R011	1-216-089-00	METAL GLAZE	47K	5%	1/10W	R065	1-216-073-00	METAL GLAZE	10K	5%	1/10W												
R012	1-216-089-00	METAL GLAZE	47K	5%	1/10W	R066	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W												
R013	1-216-089-00	METAL GLAZE	47K	5%	1/10W	R067	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W												
R014	1-216-089-00	METAL GLAZE	47K	5%	1/10W	R068	1-216-073-00	METAL GLAZE	10K	5%	1/10W												
R015	1-216-089-00	METAL GLAZE	47K	5%	1/10W	R069	1-216-025-00	METAL GLAZE	100	5%	1/10W												
R016	1-216-089-00	METAL GLAZE	47K	5%	1/10W	R070	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W												
R017	1-216-089-00	METAL GLAZE	47K	5%	1/10W	R071	1-216-025-00	METAL GLAZE	100	5%	1/10W												
R018	1-216-089-00	METAL GLAZE	47K	5%	1/10W	R072	1-216-073-00	METAL GLAZE	10K	5%	1/10W												
R019	1-216-089-00	METAL GLAZE	47K	5%	1/10W	R089	1-216-089-00	METAL GLAZE	47K	5%	1/10W												
R020	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R090	1-216-089-00	METAL GLAZE	47K	5%	1/10W												
R021	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R091	1-216-089-00	METAL GLAZE	47K	5%	1/10W												
R022	1-216-081-00	METAL GLAZE	22K	5%	1/10W	R092	1-216-089-00	METAL GLAZE	47K	5%	1/10W												
R023	1-216-081-00	METAL GLAZE	22K	5%	1/10W	R093	1-216-089-00	METAL GLAZE	47K	5%	1/10W												
R024	1-216-596-11	METAL GLAZE	2.7K	1%	1/10W	R094	1-216-089-00	METAL GLAZE	47K	5%	1/10W												
R025	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R095	1-216-089-00	METAL GLAZE	47K	5%	1/10W												
R026	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R096	1-216-089-00	METAL GLAZE	47K	5%	1/10W												
R027	1-216-089-00	METAL GLAZE	47K	5%	1/10W	R097	1-216-089-00	METAL GLAZE	47K	5%	1/10W												
R028	1-216-089-00	METAL GLAZE	47K	5%	1/10W	*****																	
R029	1-216-073-00	METAL GLAZE	10K	5%	1/10W	*1-636-959-11 RC-41 BOARD (Ref.No 7,000 Series)																	
R030	1-216-073-00	METAL GLAZE	10K	5%	1/10W	*****																	
R031	1-216-097-00	METAL GLAZE	100K	5%	1/10W																		
R032	1-216-119-00	METAL GLAZE	820K	5%	1/10W																		
R033	1-216-066-00	METAL GLAZE	5.1K	5%	1/10W																		
R034	1-216-119-00	METAL GLAZE	820K	5%	1/10W	C001	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V													
R035	1-216-025-00	METAL GLAZE	100	5%	1/10W	C002	1-163-117-00	CERAMIC CHIP 100PF	5%	50V													
R036	1-216-121-00	METAL GLAZE	1M	5%	1/10W	C003	1-163-117-00	CERAMIC CHIP 100PF	5%	50V													
R038	1-216-073-00	METAL GLAZE	10K	5%	1/10W	C004	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V													
R039	1-216-025-00	METAL GLAZE	100	5%	1/10W	C005	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V													
R040	1-216-001-00	METAL GLAZE	10	5%	1/10W	C006	1-164-232-11	CERAMIC CHIP 0.01MF		50V													
R041	1-216-025-00	METAL GLAZE	100	5%	1/10W																		
R042	1-216-073-00	METAL GLAZE	10K	5%	1/10W																		
R043	1-216-105-00	METAL GLAZE	220K	5%	1/10W																		
R044	1-216-105-00	METAL GLAZE	220K	5%	1/10W																		
R045	1-216-073-00	METAL GLAZE	10K	5%	1/10W																		
R046	1-216-073-00	METAL GLAZE	10K	5%	1/10W	D001	8-719-106-43	DIODE RD9.1M-B1															
R047	1-216-073-00	METAL GLAZE	10K	5%	1/10W	D002	8-719-106-43	DIODE RD9.1M-B1															
R048	1-216-025-00	METAL GLAZE	100	5%	1/10W	D003	8-719-106-43	DIODE RD9.1M-B1															
R049	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	D004	8-719-106-43	DIODE RD9.1M-B1															
R050	1-216-025-00	METAL GLAZE	100	5%	1/10W	D005	8-719-106-43	DIODE RD9.1M-B1															
R051	1-216-073-00	METAL GLAZE	10K	5%	1/10W	D006	8-719-106-43	DIODE RD9.1M-B1															
R052	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	D007	8-719-106-43	DIODE RD9.1M-B1															
R053	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	D008	8-719-106-80	DIODE RD13M-B2															
R054	1-216-083-00	METAL GLAZE	27K	5%	1/10W																		
R055	1-216-081-00	METAL GLAZE	22K	5%	1/10W																		
R056	1-216-025-00	METAL GLAZE	100	5%	1/10W	JR001	1-216-295-00	METAL GLAZE	0	5%	1/10W												
R057	1-216-097-00	METAL GLAZE	100K	5%	1/10W																		

When indicating parts by reference number, please include the board name.

**RC-41****DJ-10****FJ-11****IN-40**

<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
JR002	1-216-295-00	METAL GLAZE	0 5% 1/10W			<u>JACK</u>	
JR003	1-216-295-00	METAL GLAZE	0 5% 1/10W	CNJ301	1-565-735-21	JACK, PIN 3P	
JR011	1-216-296-00	METAL GLAZE	0 5% 1/8W			<u>DIODE</u>	
JR012	1-216-296-00	METAL GLAZE	0 5% 1/8W	D301	8-719-106-80	DIODE RD13M-B2	
JR013	1-216-296-00	METAL GLAZE	0 5% 1/8W	D302	8-719-106-80	DIODE RD13M-B2	
JR014	1-216-296-00	METAL GLAZE	0 5% 1/8W	D303	8-719-106-80	DIODE RD13M-B2	
		<u>COIL</u>		D304	8-719-106-80	DIODE RD13M-B2	
L001	1-410-393-11	INDUCTOR CHIP	100UH	D305	8-719-106-80	DIODE RD13M-B2	
L002	1-410-393-11	INDUCTOR CHIP	100UH	D306	8-719-106-80	DIODE RD13M-B2	
		<u>TRANSISTOR</u>		D307	8-719-106-80	DIODE RD13M-B2	
Q001	8-729-901-06	TRANSISTOR DTA144EK				<u>JUMPER RESISTOR</u>	
Q002	8-729-901-01	TRANSISTOR DTC144EK		JR031	1-216-295-00	METAL GLAZE	0 5% 1/10W
		<u>RESISTOR</u>		JR074	1-216-296-00	METAL GLAZE	0 5% 1/8W
R001	1-216-043-00	METAL GLAZE	560 5% 1/10W	JR080	1-216-295-00	METAL GLAZE	0 5% 1/10W
R002	1-216-043-00	METAL GLAZE	560 5% 1/10W	JR333	1-216-295-00	METAL GLAZE	0 5% 1/10W
R003	1-216-045-00	METAL GLAZE	680 5% 1/10W			<u>COIL</u>	
*****							
*1-636-057-11 DJ-10 BOARD (Ref.No 1,000 Series)							
*****							
3-749-038-01	HOLDER, DJ			L301	1-410-392-11	INDUCTOR CHIP	82UH
		<u>CAPACITOR</u>		L302	1-410-392-11	INDUCTOR CHIP	82UH
C801	1-164-232-11	CERAMIC CHIP 0.01MF				<u>RESISTOR</u>	
C802	1-164-232-11	CERAMIC CHIP 0.01MF		R301	1-216-295-00	METAL GLAZE	0 5% 1/10W
				R302	1-216-022-00	METAL GLAZE	75 5% 1/10W
*****							
*A-7062-462-A IN-40 BOARD, COMPLETE (Ref.No 8,000 Series)							
*****							
<u>DIODE</u>							
D802	8-719-106-45	DIODE RD9.1M-B3		CN001	1-506-483-21	PIN, CONNECTOR 4P	
D803	8-719-106-43	DIODE RD9.1M-B1		CN002	1-506-482-11	PIN, CONNECTOR 3P	
		<u>JACK</u>		CN003	1-506-484-11	PIN, CONNECTOR 5P	
J801	1-566-637-11	JACK, DC OUT		CN004	1-568-089-11	CONNECTOR (PLUG) 12P	
				CN005	1-568-092-11	CONNECTOR (PLUG) 18P	
*****							
*1-636-059-11 FJ-11 BOARD (Ref.No 6,000 Series)							
*****							
1-590-013-11	CABLE, FLAT (1.0MM PITCH) 5 CORE			CN006	*1-568-098-11	CONNECTOR (PLUG) 30P	
		<u>CAPACITOR</u>		CN007	*1-568-098-11	CONNECTOR (PLUG) 30P	
C301	1-163-001-11	CERAMIC CHIP 220PF		CN008	*1-565-060-11	PIN, CONNECTOR 16P	
C302	1-163-001-11	CERAMIC CHIP 220PF		CN009	*1-564-988-11	PIN, CONNECTOR 14P	
C303	1-163-115-00	CERAMIC CHIP 82PF		CN010	1-568-219-11	PIN, CONNECTOR 22P	
C304	1-163-017-00	CERAMIC CHIP 0.0047MF		CN011	1-564-680-11	PIN, CONNECTOR 10P	
				CN012	*1-564-988-11	PIN, CONNECTOR 14P	
		<u>CONNECTOR</u>		CN013	1-563-631-11	CONNECTOR, FLEXIBLE 28P	
CN301	1-575-360-11	CONNECTOR, FPC/FFC 5P		CN014	*1-563-633-11	CONNECTOR, FLEXIBLE 30P	
						<u>DIODE</u>	
				D003	8-719-400-18	DIODE MA152WK	
						<u>TRANSISTOR</u>	
				Q001	8-729-901-00	TRANSISTOR DTC124EK	

When indicating parts by reference number, please include the board name.

**IN-40****RJ-20****RS-54****MC-60**

<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>				<u>Remark</u>	<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>				<u>Remark</u>							
Q002	8-729-901-00	TRANSISTOR	DTC124EK				L704	1-410-392-11	INDUCTOR CHIP	82UH										
Q003	8-729-901-00	TRANSISTOR	DTC124EK						<u>RESISTOR</u>											
<u>RESISTOR</u>																				
R002	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W		R701	1-216-295-00	METAL GLAZE	0	5%	1/10W								
R003	1-216-081-00	METAL GLAZE	22K	5%	1/10W		R702	1-216-022-00	METAL GLAZE	75	5%	1/10W								
R004	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W		*****													
R005	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W		*****													
*****														*A-7062-464-A RS-54 BOARD, COMPLETE (Ref.No 6,000 Series)						
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**MC-60****UC-3****CC-23**

<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>				
<b>JACK</b>											
J601	1-565-276-21	JACK, ULTRA SMALL 1P		A-7040-160-A	MOTOR ASSY, THREADING						
J602	1-563-282-11	JACK, SMALL TYPE		X-3731-108-1	MOTOR ASSY						
J603	1-562-917-11	JACK (SMALL TYPE)		1-238-738-11	RES, VAR, CARBON 10K						
*****											
*1-628-908-11 UC-3 BOARD (Ref.No 3,000 Series)											
*****											
<b>CONNECTOR</b>											
CN001	1-566-529-11	CONNECTOR, FPC (ZIF) 13P		<b>MISCELLANEOUS</b>							
CN002	1-566-527-11	CONNECTOR, FPC (ZIF) 11P		*****							
<b>JUMPER RESISTOR</b>											
JR001	1-216-296-00	METAL GLAZE	0	5%	1/8W						
JR002	1-216-295-00	METAL GLAZE	0	5%	1/10W						
JR003	1-216-296-00	METAL GLAZE	0	5%	1/8W						
JR004	1-216-296-00	METAL GLAZE	0	5%	1/8W						
JR005	1-216-296-00	METAL GLAZE	0	5%	1/8W						
JR006	1-216-295-00	METAL GLAZE	0	5%	1/10W						
JR008	1-216-296-00	METAL GLAZE	0	5%	1/8W						
JR009	1-216-296-00	METAL GLAZE	0	5%	1/8W						
JR010	1-216-296-00	METAL GLAZE	0	5%	1/8W						
JR011	1-216-296-00	METAL GLAZE	0	5%	1/8W						
JR012	1-216-296-00	METAL GLAZE	0	5%	1/8W						
JR013	1-216-295-00	METAL GLAZE	0	5%	1/10W						
JR019	1-216-296-00	METAL GLAZE	0	5%	1/8W						
JR022	1-216-295-00	METAL GLAZE	0	5%	1/10W						
JR023	1-216-296-00	METAL GLAZE	0	5%	1/8W						
<b>CONNECTOR</b>											
W001	1-574-353-11	CABLE, FLAT (1.0MM PITCH) 18P		<b>ACCESSORIES AND PACKING MATERIALS</b>							
*****											
*1-628-694-21 CC-23 BOARD (Ref.No 3,000 Series)											
*****											
<b>CONNECOTR</b>											
CN001	*1-562-880-21	CONNECOTR, CARD EDGE 15P		<b>HARDWARE LIST</b>							
*****											
<b>CONNECOTR</b>											
W001	1-574-354-11	CABLE, FLAT (1.0MM PITCH) 15P		<b>PRECISION SCREW</b>							
*****											
<b>SCREW</b>											
7-682-547-04	SCREW +BVTT	3X6 (S)									
7-685-646-79	SCREW +BTP	3X8 TYPE2 N-S									
7-685-646-79	SCREW +BVTP	3X8 TYPE2 IT-3									
7-685-646-79	SCREW +BVTP	3X8 TYPE2									
7-685-647-79	SCREW +BVTP	3X10 TYPE2 IT-3									
7-685-647-79	SCREW +BVTP	3X10 TYPE2									
*****											

When indicating parts by reference number, please include the board name.

## SECTION 8

### MECHANICAL ADJUSTMENT

#### HOW TO ADJUST MECHANICAL UNIT

For the adjustment and checking of the mechanical unit and methods for replacing camera parts, see the separate 8 mm Video Mechanical Unit Adjustment Guide III U Mechanism (9-972-732-11).

However, see the following for the setting of track shift mode.

#### 8-1. TAPE PASSING ADJUSTMENT (TRACK SHIFT)

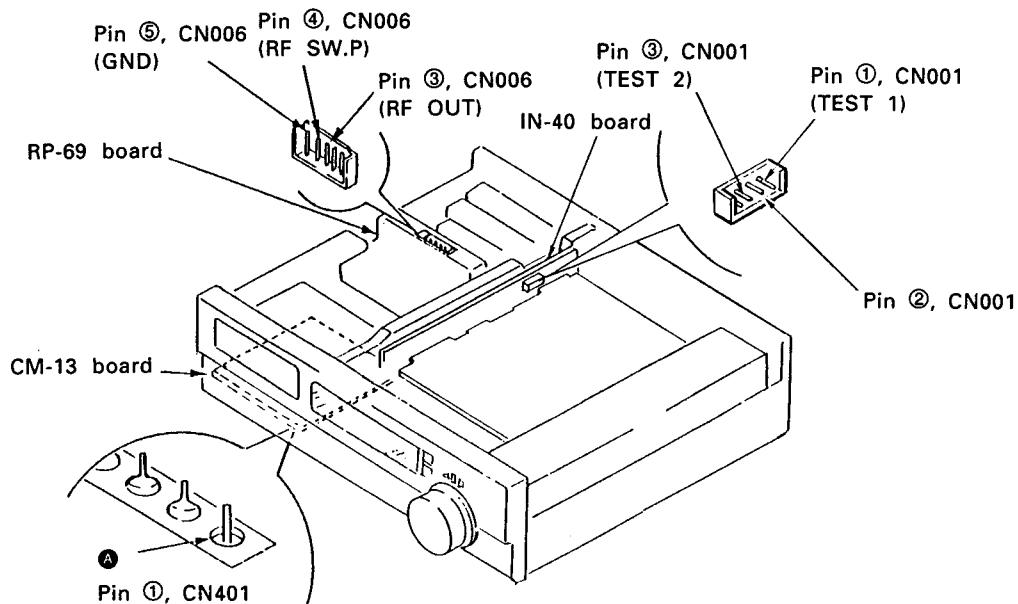
The 8 mm video system employs a ATF (automatic track finding) system with which tape running speed is instantaneously controlled and tracked at high accuracy based on four types of pilot signals. Thus, the tracking adjust knob is no longer required while realizing more precise tracing.

However, controlling of the tape pass system was rather difficult with the ATF system. This was because, even if tracing of the head was slightly deviated, the ATF could automatically compensate it, so complete adjustment was not possible.

To overcome such a trouble in finely adjusting to track, set up track shift mode and adjust it. Thus, the ATF is forcefully controlled to shift tracking quantity by a preset value (about 1/4). Therefore, fine adjustment of tracking can be operated easily. No tracking shift jig is required.

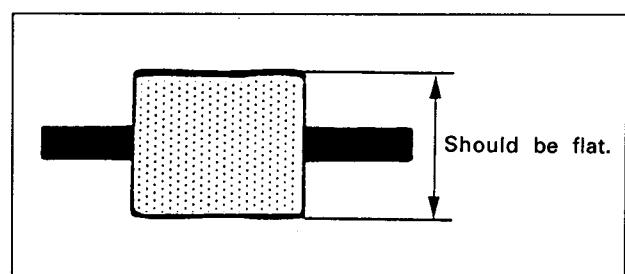
#### 8-1-1. Setting of track shift mode

- 1) Remove the solder on Pin ① A of CM-13 board by ironing and evacuating, thus isolating the pin from the pattern and the land.
- 2) Connect Pin ②, CN001 on the IN-40 board to Pins ① and ③ of CN001 (Test 2).
- 3) Thus, track shift mode is actuated.



#### 8-1-2. Adjustment preparation

- 1) Clean the tape running surface (tape guide, drum, capstan shaft, pinch roller).
- 2) Connect to the oscilloscope.  
CH1: RP-69 board CN006 Pin ③ (PB RF)  
CH2: RP-69 board CN006 Pin ④ (RF.SWP)
- 3) Replay the alignment tape (WR5-1NP) for tracking.
- 4) Check that the RF waveforms of the oscilloscope at both input and output sides are flat. If not flat, adjust the mechanical unit according to the separate manual U mechanical unit adjustment.
- 5) After completion of adjusting, solder Part A of Pin ① in the CM-13 board.



## SECTION 9

### ELECTRICAL ADJUSTMENT

**For adjusting, see the layout view of parts to be adjusted shown on Page 194 and subsequent ones.**

#### 9-1. PREPARATION OF ELECTRICAL ADJUSTMENT

The following measuring equipment is used for electrical adjustments.

##### (Equipment to be Used)

- 1) Monitor TV
  - 2) Dual trace, oscilloscope having band of over 10MHz delay mode. (Use 10 : 1 probe unless otherwise specified)
  - 3) Frequency counter
  - 4) Pattern generator (equipped with video output terminal)
  - 5) Digital voltmeter
  - 6) Audio generator
  - 7) Audio level meter
  - 8) Audio distortion meter
  - 9) Audio attenuator
  - 10) Audio multiplex signal generator
  - 11) Alignment tapes
  - 12) Vectorscope
- Tracking adjustment (WR5-1CP)  
Part code: 8-967-995-07
- Video frequency response adjustment (WR5-6C)  
Part code: 8-967-995-17
- Normal mode operation checking  
For SP (WR5-5CSP)  
Part code: 8-967-995-46  
or (WR5-4SP)  
Part code: 8-967-995-47
- For LP (WR5-4CL)  
Part code: 8-967-995-56
- AFM Stereo operation checking  
For SP (WRS-9CS)  
Part code: 8-967-995-28

##### (Connection of Devices)

Connect measurement devices as follows for adjustment, unless otherwise required.

- Input select switch .....LINE position 1

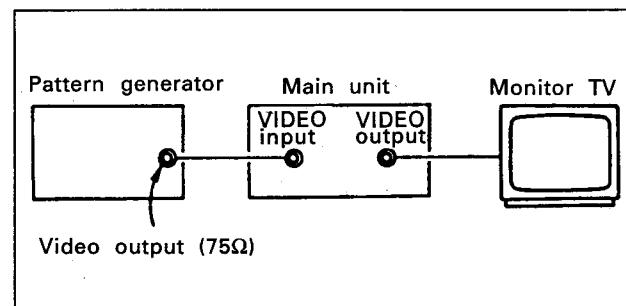


Fig. 9-1

Connect an oscilloscope to the video input terminal and confirm that the amplitude of the sync signal of the video signal is approximately 0.3V and the amplitude of the video section is approximately 0.7V. Confirm that the burst signal amplitude is approximately 0.3V and flat, and that the level ratio of the burst signal and red signal is 0.30 : 0.66. The video signal (color bars) used for adjustment are shown in Fig. 9.2.

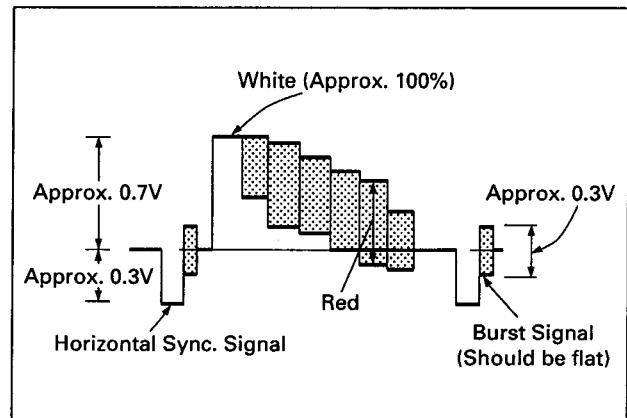


Fig. 9-2 Pattern generator color bar signal

The alignment tapes shown in the table below are available. Use the tape indicated in the signal column of each adjustment section.

When a specific name is not given for use of an operation checking tape, any of the operation checking tapes can be used.

#### (Alignment Tapes)

Name	Recording Mode	Tape Type	Tape Speed	Contents		Use
				Video Area	PCM Area	
Tracking WR5-1CP	STD	MP	SP	CH2: Signal for 1MHz tape path adjustment Marker (CH1: 9MHz) for switching position adjustment		Tape path adjustment Switching position adjustment
Video frequency response WR5-6C	STD	MP	SP	RF sweep 0~10MHz Markers 1, 3.58, 5.5, 7MHz		Frequency response adjustment
Operation checking WR5-4CSP or WR5-5CSP	STD	MP	SP	<ul style="list-style-type: none"> <li>Video signals Color bars 4 minutes</li> <li>Monoscope 4 minutes</li> <li>Audio signal (AFM) 400Hz, 60% modulation</li> </ul>		<ul style="list-style-type: none"> <li>Audio signals (PCM) Monoscope section 20Hz 20 seconds</li> <li>400Hz 20 seconds</li> <li>14kHz 20 seconds</li> <li>Color bar section 1kHz 4 minutes</li> </ul>
WR5-4CL	STD	MP	LP	<ul style="list-style-type: none"> <li>Video signals Color bars 4 minutes</li> <li>Monoscope 4 minutes</li> <li>Audio signal (AFM) 400Hz, 60% modulation</li> </ul>		
WR5-9CS	STD	MP	SP	<ul style="list-style-type: none"> <li>Video signals Color bars 4 minutes</li> <li>Monoscope 4 minutes</li> <li>Audio signal (AFM)</li> <li>Color bar part Lch: 400Hz L + R (1.5MHz±60kHz) Rch: 1kHz L - R (1.7MHz±30kHz)</li> <li>Monoscope part DEV + Bilingual (including a RF ID signal)</li> </ul>		Operation checking

#### Note: Recording modes

STD ..... Conventional mode

#### Tape Types

MP ..... Metal particle tape

The 100% color bar signal recorded on the alignment tape is shown in Fig. 9-3.

**Note:** Measured at VIDEO OUT terminal (terminated at 75Ω)

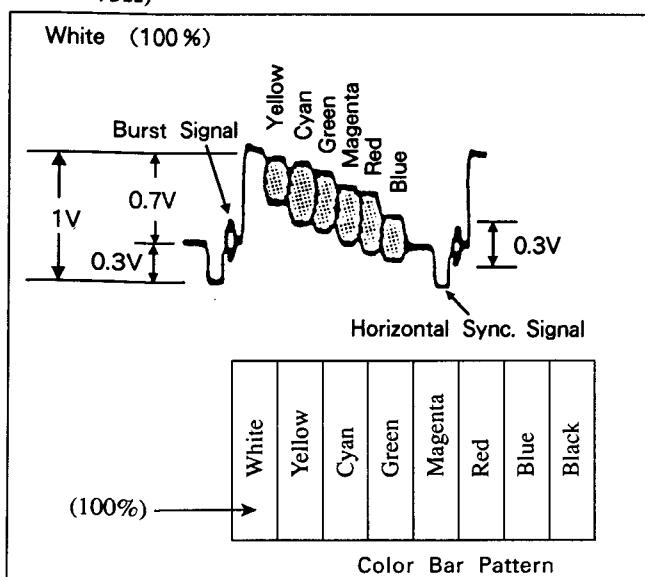


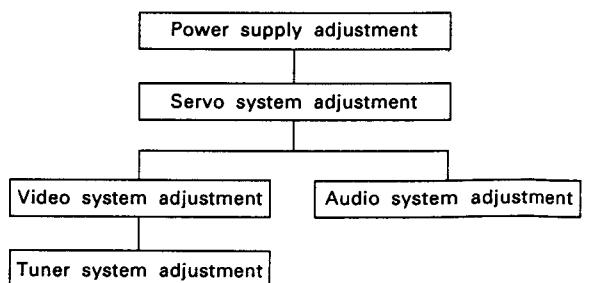
Fig. 9-3 Color bar signal on alignment tape

#### (I/O Level and Impedance)

Video input	Pin jack
	Input signal: 1Vp-p, 75Ω unbalanced, negative SYNC
Video output	Pin jack
	Output signal: 1Vp-p, 75Ω unbalanced, negative SYNC
Audio input	Pin jack
	Input level: -7.5dBs (0.775Vrms)
Audio output	Pin jack
	Rated output: -7.5dBs (with 47kΩ load) Output impedance: Less than 10kΩ

#### (Adjustment Order)

Perform adjustment in the following order



## 9-2. CHECKING OF VOLTAGES IN POWER SUPPLY (POWER BLOCK BOARD)

Measure voltages in playback mode.

Checking item	Measurement point	Specified value
1. UN + 5.7V	Pin ②, CN202 (Pin ①, CN202 connected to the negative side)	+5.7V ±0.6Vdc
2. UN - 30V	Pin ④, CN202	-30V ±3Vdc
3. DC OUT 7.5V	Pin ①, ②, CN203	+7.4V <sup>+0.5</sup> <sub>-0.4</sub> Vdc
4. UN + 40V	Pin ①, CN201	+40V ±2Vdc
5. SW + 12V	Pin ②, CN201	+12V ±0.5Vdc
6. SW + 9V	Pin ③, CN201	+9V ±0.3Vdc
7. UN + 9V	Pin ④, CN201	+9.5V ±0.5Vdc
8. UN SW + 5.6V	Pin ⑤, CN201	+5.6 ±0.2Vdc
9. SW + 5V	Pin ⑦, ⑧, CN201	+5.2V <sup>+0.3</sup> <sub>-0.2</sub> Vdc
10. UN SW - 5V	Pin ⑨, CN201	-5V ±0.3Vdc
11. SW - 5V	Pin ⑩, CN201	-5V ±0.3Vdc

## 9-3. ADJUSTMENT OF SYSTEM CONTROL CIRCUIT

### 9-3-1. Micon Oscillator Check (8MHz) (FR-60 Board)

Signal	Free
Measurement point	Pin ⑪, IC005
Instrument	Frequency counter
Specified value	8,050 ± 100kHz

(Check Methods)

- 1) Check for  $8,050 \pm 100\text{kHz}$ .

### 9-3-2. Tuner and Timer Micon Oscillator Check (32kHz) (FR-60 Board)

Mode	EE
Signal	Free
Measurement point	Pin ⑧, IC005 (BUZZER OUT)
Instrument	Frequency counter
Adjustment element	CT001
Specified value	$4,096 \pm 0.015\text{Hz}$ *Note

(Check Methods)

- 1) Adjust the frequency at Pin ⑧, IC005 to  $4,096 \pm 0.015\text{Hz}$  using CT001.

\* Note: The frequency of 32kHz is divided in the IC.

### 9-3-3. Mode Control Micon Oscillator Check (ST-41 Board)

Mode	EE
Signal	Free
Measurement point	Pin ⑧, IC001
Instrument	Frequency counter
Specified value	$4.00 \pm 0.04\text{MHz}$

(Check Methods)

- 1) Check for  $4.00 \pm 0.04\text{MHz}$ .

## 9-4. ADJUSTMENT OF SERVO SYSTEM

### 9-4-1. Oscillation Frequency Adjustment (CM-13 Board)

Mode	Record
Signal	Free
Measurement point	Pin ⑦, IC502
Instrument	Frequency counter
Adjustment element	RV501
Specified value	$476.54 \pm 5.0\text{kHz}$

(Adjustment Methods)

- 1) Set oscillation frequency to  $476.54 \pm 5.0\text{kHz}$  using RV501.

### 9-4-2. Switching Position Adjustment (CM-13 Board)

Mode	Playback
Signal	Alignment tape: For operation check (WR5-ICP)
Measurement points	CH-1: Pin ③, IC201 (VIDEO OUT) CH-2: Pin ⑩, IC401 (RF SWP)
Instrument	Oscilloscope
Adjustment element	RV401
Specified value	$0 \pm 10\mu\text{s}$

(Adjustment Methods)

- 1) Connect Pins ② and ③ of CN001 in the IN-40 board (test 2 MODE)
- 2) Adjust with RV401 so that the marker of the RF CH 2 waveform is lined up with the falling edge of the RF SWP waveform.

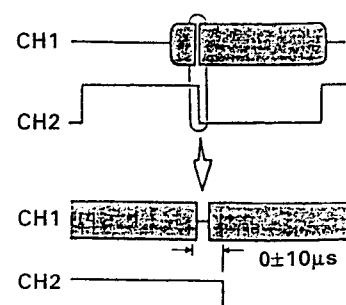


Fig. 9-4. Switching position adjustment

#### 9-4-3. PB SP/LP Adjustment (CM-13 Board)

Mode	Variable speed playback (CUE)
Signal	Alignment tape: For operation check (SP mode: WR5-4CSP or another) (LP mode: WR5-4CL or another)
Measurement point	Pins ② and ③, IC302
Instrument	digital voltmeter
Adjustment element	RV301
Specified value	$\frac{(Vs + V_L)}{2}$

#### (Adjustment Methods)

- 1) Set S110 (SP/LP) to LP and playback the tape for SP mode (WR5-4CSP) in CUE mode.
- 2) Measure the voltage at Pin ② of IC301 at that time, using the digital voltmeter and store. ( $V_s$ )
- 3) Set S110 (SP/LP) to SP and playback the tape for LP mode (WR5-4CL) in FF mode.
- 4) Measure the voltage at Pin ③ of IC201 at that time, using the digital voltmeter and store. ( $V_L$ )
- 5) Adjust RV301 so that voltages at Pins ② and ③ of IC302 are  $\frac{(Vs + V_L)}{2}$ .

#### 9-4-4. Capstan FG Adjustment (CM-13 Board)

Mode	REC SP (or LP)
Signal	Free
Measurement point	Pin ⑩, IC201
Instrument	Oscilloscope
Adjustment element	RV201
Specified value	Duty 50% $\pm 5\%$

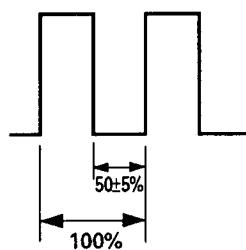


Fig. 9-5

#### 9-5. ADJUSTMENT OF VIDEO SYSTEM

As a rule, video system adjustment should be performed in accordance with the following order. The color video signal supplied from the pattern generator is used as video input signal for video system adjusting in the recording mode. Confirm that the SYNC signal and color burst signal conform to the set-up specifications during adjustment as shown in Fig. 9-2.

##### (Adjusting Order)

1. Playback frequency characteristics adjustment
2. Flying erase check
3. Crystal oscillator fo check
4. SYNC AGC adjustment
5. Y/C separation adjustment
6. Burst frag adjustment
7. Emphasis Input adjustment
8. PB CCD Input level adjustment
9. PB Y level adjustment
10. Y FM carrier frequency adjustment
11. Y FM deviation adjustment
12. AC clip check
13. Chroma Emphasis fo adjustment
14. REC Y level adjustment
15. REC C level adjustment
16. Qvansi burst phase adjustment
17. Delay burst phase adjustment
18. REC ATF level confirmation

### 9-5-1. Playback Frequency Characteristics Adjustment (RP-69 Board)

#### 1. Adjustment of CH1 and CH2

The adjustment element for CH2 is shown in ( ).

Mode	Playback
Signal	Alignment tape: For adjusting frequency characteristics (WR5-6C)
Measurement point	Pin ③, CN006 External trigger: Pin ④, CN006 Trigger slope: - (+)
Instrument	Oscilloscope
Adjustment element	RV004 (RV003)
Specified value	5.5MHz level: 3.58MHz level = 3 : 4

#### (Adjustment Methods)

- 1) Adjust RV004 and RV003 so that the ratio of 3.58MHz level and 3.58MHz level is 4 : 3 (4 : 3).

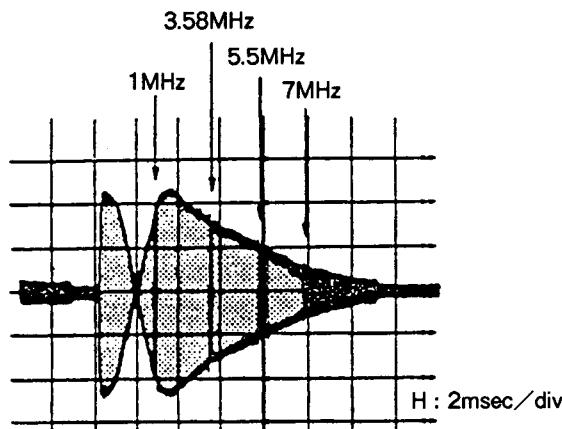


Fig. 9-6 Playback frequency characteristics adjustment

#### 2. Adjustment of CH1'

Mode	Playback pause
Signal	Alignment tape: For adjusting frequency characteristics (WR5-6C)
Measurement point	Pin ①, CN006 External trigger: Pin ④, CN006 Trigger slope: +
Instrument	Oscilloscope
Adjustment element	RV201
Specified value	Ratio of 3.58MHz level to that of 5.5MHz is 4 : 3.5

#### (Adjustment Methods)

- 1) Connect pins ② and ③ of CN001 in IN-40 board. (Test 2 MODE)  
2) Adjust RV201 so that the ratio of 5.5MHz level to that 3.58MHz becomes 4 : 3.5.

### 9-5-2. Flying Erase Check (RP-69 Board)

Mode	Recording
Signal	Arbitrary
Measurement point	Pin ②, CN001
Instrument	Frequency counter and oscilloscope
Specified value	Frequency: $8.3 \pm 0.5\text{MHz}$
Specified value	Voltage: Approx. 8Vp-p or more

- Note:** 1) Use an MP type tape.  
2) Connect the frequency counter via a buffer amplifier (oscilloscope or the like) with a high input impedance ( $1M\Omega$  or more) and low capacitance ( $10\text{pF}$  or less).

#### (Check Methods)

- 1) Check for  $8.3 \pm 0.5\text{MHz}$  and about 5.0Vp-p.

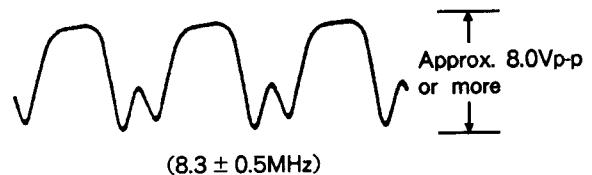


Fig. 9-7 Flying erase check

### 9-5-3. Crystal Oscillator fo Check (VI-98 Board)

Mode	Playback
Signal	Alignment tape: For operation check (WR5-3CSP)
Measurement point	Pin ⑩, IC001
Instrument	Frequency counter
Specified value	$4433619 \pm 150\text{Hz}$

- Note:** Connect the frequency counter via a buffer of high impedance (approx.  $10M\Omega$ ) and low capacitance (less than  $10\text{pF}$ ).

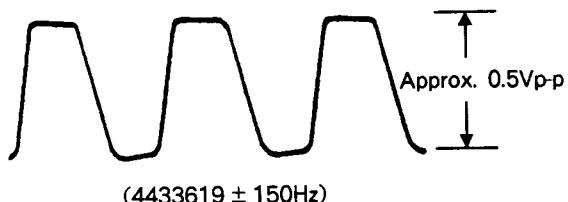


Fig. 9-8 Crystal oscillator fo check

#### 9-5-4. SYNC AGC Adjustment (VI-98 Board)

Mode	E-E
Signal	Color bar
Measurement point	Pin ④ of IC001
Measuring instrument	Oscilloscope
Adjusting element	RV500
Specified value	$0.5 \pm 0.02\text{Vp-p}$

**Note:** VIDEO OUT terminal (CNJ701 on RJ-20 board) should be terminated with  $75\Omega$ .

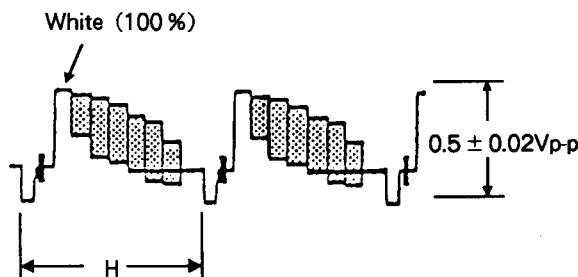


Fig. 9-9 SYNC AGC adjustment

#### 9-5-5. Y/C Separation Adjustment (VI-98 Board)

Mode	E-E
Signal	Color bar
Measurement point	Pin ④ of IC001
Measuring instrument	Oscilloscope
Adjusting element	RV001
Specified value	Under 150m Vp-p (residual chroma component)

##### (Adjustment Method)

- 1) Adjust RV001 so as to minimize the residual chroma component.

Residual chroma component  
(minimize amplitude of this section)

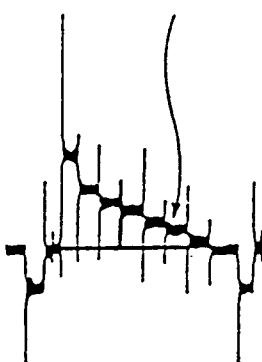


Fig. 9-10 Y/C separation adjustment

#### 9-5-6. Burst Frag Adjustment (VI-98 Board)

Mode	Recording
Signal	Color bar
Measurement point	CH1: Pin ⑤ of IC001 (REC C RF OUT) CH2: Pin ⑧ of IC001 (BF OUT)
Measuring instrument	Oscilloscope
Adjusting element	RV002
Specified value	$a = b$ (Refer to Fig. 9-11.)

##### (Adjusting Method)

- 1) Use RV002 to match the falling edge of the CH2 burst pulse to the center of the CH1 burst signal.

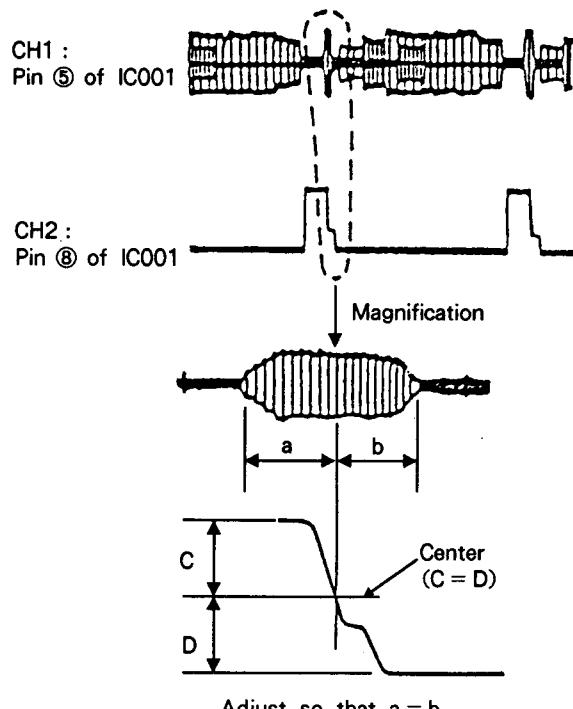


Fig. 9-11 Burst frag

### 9-5-7. Emphasis Input Adjustment (VI-98 Board)

Mode	E-E
Signal	Color bar
Measurement point	Pin ④ of IC001
Measuring instrument	Oscilloscope
Adjusting element	RV003
Specified value	$0.50 \pm 0.02\text{Vp-p}$

#### (Adjusting Method)

- 1) Adjust to  $0.50 \pm 0.02\text{Vp-p}$  with RV003.

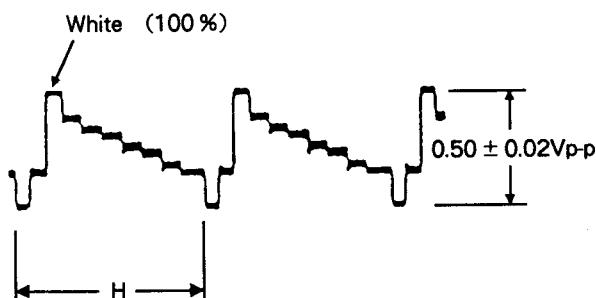


Fig. 9-12 Emphasis input level adjustment

### 9-5-8. PB CCD Input Level Adjustment (VI-98 Board)

Mode	Playback
Signal	Alignment tape for operation confirmation (WR5-3CSP) color bar section
Measurement point	Pin ④ of IC001
Measuring instrument	Oscilloscope
Adjusting element	RV006
Specified value	$0.50 \pm 0.02\text{Vp-p}$

#### (Adjusting Method)

- 1) Adjust to  $0.50 \pm 0.02\text{Vp-p}$  with RV006.

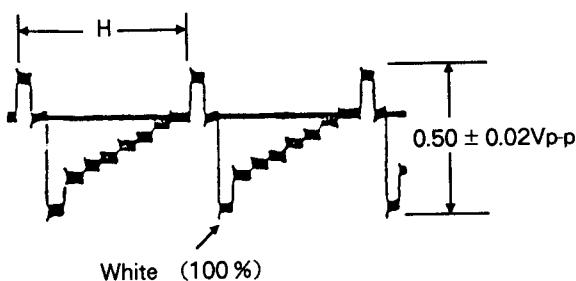


Fig. 9-13 PB CCD input level adjustment

### 9-5-9. PB Y Level Adjustment (VI-98 Board)

Mode	Playback
Signal	Alignment tape: For operation confirmation (WR5-3CSP) Color bar section
Measurement point	Pin ③ of CN001
Measuring instrument	Oscilloscope
Adjusting element	RV007
Specified value	$1.00 \pm 0.05\text{Vp-p}$

**Note:** 1) The VIDEO OUT terminal (CN701 on the RJ-20 board) must be terminated in  $75\Omega$ .

#### (Adjusting Method)

- 1) Adjust to  $1.00 \pm 0.05\text{Vp-p}$  with RV007.

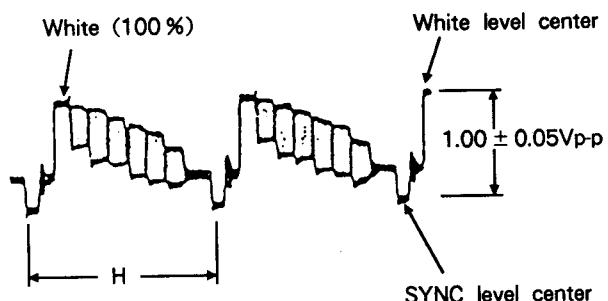


Fig. 9-14 PB Y level adjustment

### 9-5-10. Y FM Carrier Frequency Adjustment (VI-98 Board)

Mode	E-E
Signal	Non-signal
Measurement point	Pin ④ of IC001
Measuring instrument	Frequency counter
Adjusting element	RV005
Specified value	$4.38 \pm 0.02\text{MHz}$

#### (Adjusting Method)

- 1) Adjust to  $4.38 \pm 0.02\text{MHz}$  with RV005.  
2) Perform "Deviation Adjustment" and "Emphasis Adjustment" after this adjustment.

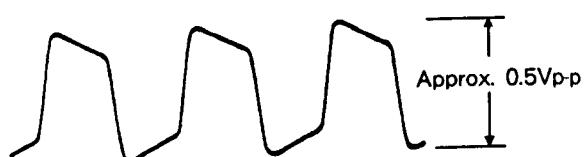


Fig. 9-15 Y FM carrier frequency adjustment

### 9-5-11. Y FM Deviation Adjustment (VI-98 Board)

Mode	E-E
Signal	Color bar
Measurement point	Pin ③ of CN001: VIDEO OUT
Measuring instrument	Oscilloscope
Adjusting element	RV004
Specified value	Playback level: $1.00 \pm 0.05\text{Vp-p}$

**Note:** 1) "PB Y Level Adjustment" and "Y FM Carrier Frequency Adjustment" should have been completed.  
2) VIDEO OUT terminal (CNJ701 on RJ-20 board) should be terminated with  $75\Omega$ .  
3) EDIT switch (S013 on FR-60 board) should be turned OFF.

#### (Adjusting Method)

- 1) Record color bar signal.
- 2) Play back the recorded signal.
- 3) Confirm the playback output level.  
Specified value:  $1.00 \pm 0.05\text{Vp-p}$ .
- 4) If the specified value is not satisfied, repeat steps 1) to 3) after turning RV004 as shown in the table below.

	RV004 turning direction
When larger than specified value	Clock wise ( $\curvearrowright$ )
When smaller than specified value	Counter clock wise ( $\curvearrowleft$ )

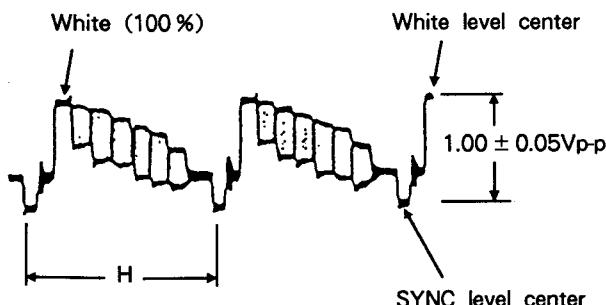


Fig. 9-16 Y FM deviation adjustment

### 9-5-12. AC Clip Check (VI-98 Board)

Mode	Recording
Signal	Color bar
Measurement point	Pin ② of IC001
Measuring instrument	Oscilloscope
Specified value	$240 \pm 10\%$

#### (Adjusting Method)

- 1) Confirm that the white (100%) peak of the waveform output from pin ② of IC001 is  $240 \pm 10\%$ .

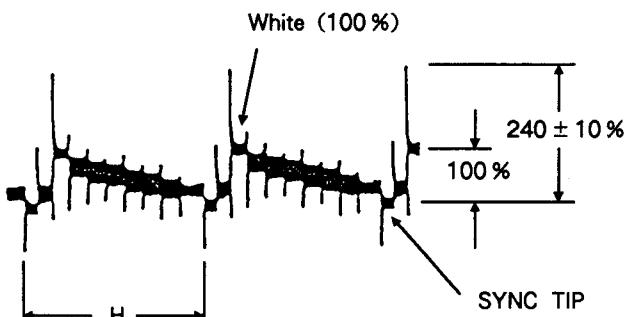


Fig. 9-17 AC clip check

### 9-5-13. Chroma Emphasis fo Adjustment (VI-98 Board)

Mode	E-E
Signal	Color bar
Measurement point	Pin ⑤ of IC001
Measuring instrument	Oscilloscope
Adjusting element	FL002
Specified value	Minimum fo component

#### (Adjusting Method)

- 1) Adjust FL002 so that the amplitude of the flat section of the red portion become minimum.

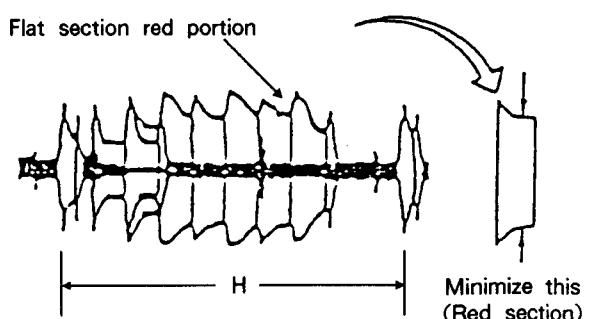


Fig. 9-18 Chroma emphasis fo adjustment

#### 9-5-14. REC Y Level Adjustment (VI-98 Board)

Mode	E-E
Signal	Non-signal
Measurement point	Pin ② of CN003
Measuring instrument	Oscilloscope
Adjusting element	RV200
Specified value	$0.31 \pm 0.01\text{Vp-p}$

#### 9-5-15. REC C Level Adjustment (VI-98 Board)

Mode	E-E
Signal	Color bar
Measurement point	Pin ③ of CN003
Measuring instrument	Oscilloscope
Adjusting element	RV201
Specified value	$150 \pm 10\text{mVp-p}$

**Note:** 1) Be sure to always perform REC AFM level confirm and REC ATF level confirm after performing REC C level adjustment.  
2) Use MP-type tape.

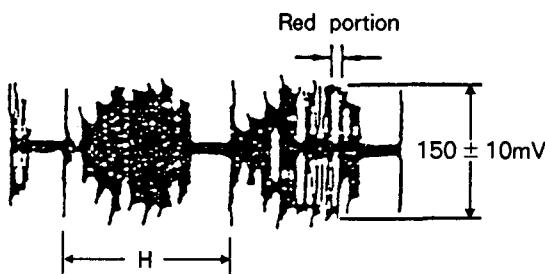


Fig. 9-19 REC C level adjustment

#### 9-5-16. Quasi Burst Phase Adjustment (VI-98 Board)

##### 1. Method using vectorscope

Mode	Playback
Signal	Tape with recorded color bars
Measurement point	VIDEO OUT terminal
Measuring instrument	Vectorscope
Adjusting element	RV402
Specified value	Phase of color luminance points in quasi burst mode is same as phase of color luminance points in through burst mode

##### (Adjusting Method)

- 1) Make a record of the phase of the color luminance points (especially red). (Through burst mode)
- 2) Connect pin ② of IC400 and pin ① of IC400 with a diode (1SS119, etc.). (Quasi burst mode)

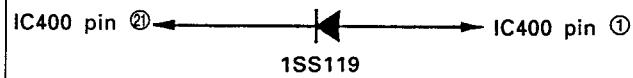


Fig. 9-20

- 3) Adjust RV402 so that the phase of the color luminance points is the same as the phase recorded in 1).
- 4) Remove the diode.

##### 2. Method using monitor TV

Mode	Playback
Signal	Tape with recorded color bars
Measurement point	Confirmation on monitor
Measuring instrument	TV screen
Adjusting element	RV402
Specified value	Minimum chroma flickering

##### (Connection)

- 1) Connect pin ② of IC400 and pin ① of CN002 (RF SWP) using a diode (1SS119, etc.).



Fig. 9-21

##### (Adjusting Method)

- 1) Set the color level of the monitor TV to maximum.
- 2) Adjust RV402 for minimum chroma flickering.

### 9-5-17. Delay Burst Phase Adjustment (VI-98 Board)

Mode	Playback pause (LP mode)
Signal	Alignment tape for operation check (WR5-3CL), color bars
Measurement point	Confirmation on monitor
Measuring instrument	TV screen
Adjusting element	RV403
Specified value	Minimum chroma flickering

#### (Adjusting Method)

- 1) Set the color level of the monitor TV to maximum.
- 2) Rotate RV403 fully in the counterclockwise direction ( ↙ ).
- 3) Slowly rotate RV403 in the clockwise direction and stop at the position where there is minimum chroma flicker.

### 9-5-18. REC ATF Level Confirmation (CM-13 Board)

Mode	REC
Signal	Non-signal
Measurement point	Pin ⑧ of CN401
Measuring instrument	Oscilloscope
Specified value	$380 \pm 40\text{mVp-p}$

**Note:** Use MP type tape.

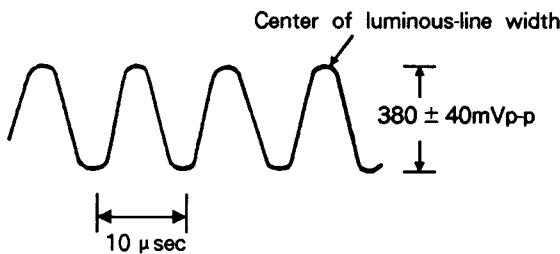


Fig. 9-22 REC ATF level Confirmation

### 9-6. SECAM-PAL CONVERSION SYSTEM ADJUSTMENT

- Make this adjustment aligning the PAL video system.
- For this adjustment, use the equipment listed below.

#### (Equipment Required)

- (1) PAL Colour Monitor TV
- (2) Oscilloscope, Dual-trace, Bandwidth ... more than 10MHz with delay mode
- (3) SECAM colour-bar generator
- (4) PAL vector scope
- (5) Frequency counter
- (6) Digital voltmeter

#### Setting up during adjustment

Video signals output by a pattern generator are used as adjustment signals when making the electrical adjustments, and these video output signals should be within the required standard. Connect all oscilloscope to CN701 (VIDEO IN) on the RJ-20 Board. Check that the amplitudes of video signal SYNC signals, picture portions, and line ID signals are flat at approximately 0.3, 0.7, and 0.3V, respectively. Fig. 9-23 shows video signals (Colour bars) used in making the electrical adjustment.

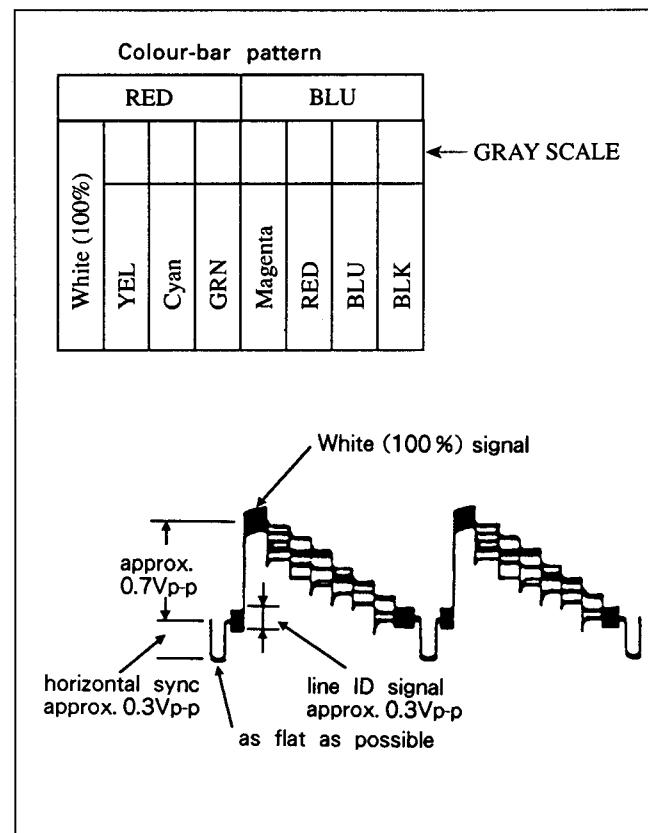


Fig. 9-23

### 9-6-1. $f_H$ VCO Adjustment (VI-98 Board)

Mode	E-E
Signal	No signal
Measurement point	Pin ⑩ of IC701
Measuring instrument	Frequency counter
Adjustment element	RV700
Specified value	$15,625 \pm 0.01\text{kHz}$

#### (Connection)

Connect between pin ⑩ of IC701 and pin ⑩ of IC701 with a jumper wire.

#### (Adjustment Method)

- 1) Adjust with RV700 so that it becomes  $15,625 \pm 0.01\text{kHz}$ .

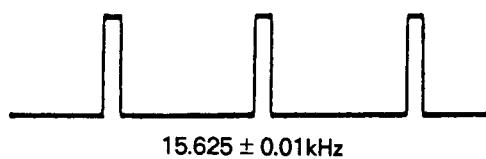


Fig. 9-24

### 9-6-2. I REF Adjustment (VI-98 Board)

Mode	E-E
Signal	SECAM colour-bar
Measurement point	Pin ⑩ of IC701 Pin ① of CN001
Measuring instrument	Oscilloscope
Adjustment element	RV701
Specified value	$tr = 4.5 \pm 0.1\mu\text{s}$

#### (Adjustment Method)

- 1) IC701 (⑩-⑩ OPEN)

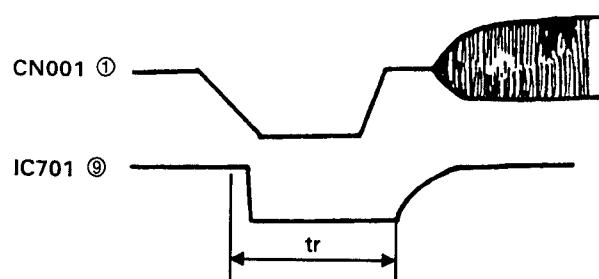


Fig. 9-25

### 9-6-3. Bell Filter Adjustment (VI-98 Board)

Mode	E-E
Signal	SECAM colour-bar
Measurement point	Pin ⑨ of IC701
Measuring instrument	Oscilloscope
Adjustment element	LV700
Specified value	The level variation of the chroma signal amplitude is $0 \pm 10\%$

**Note:** When performing (Adjustment Method 1) be sure to use 1:1 probe as the signal level of IC701 pin ⑨ is extremely small. In addition, when the adjustment is impossible because of the signal level is too small to read, perform (Adjustment Method 2).

#### (Adjustment Method 1)

- 1) Adjust LV700 until the waveform is flat.

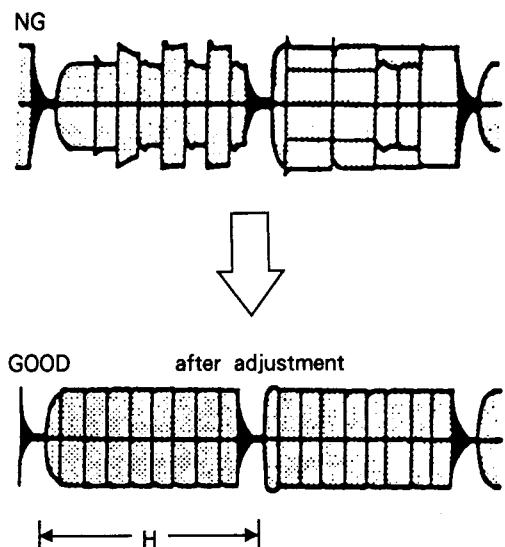


Fig. 9-26

#### (Adjustment Method 2)

- 1) Set the picture level of the monitor TV to maximum.
- 2) Adjust by turning LV700 so that the borders of the respective colour-bars (especially red and blue) become vivid and stop LV700 at the position where the beat (red and magenta sections) becomes small.

#### 9-6-4. Colour Level Adjustment (VI-98 Board)

Mode	E-E
Signal	SECAM colour-bar
Measurement point	Pin ③ of IC702
Measuring instrument	Oscilloscope
Adjustment element	RV702
Specified value	$0.75 \pm 0.05\text{Vp-p}$

Note: IC701 (⑨-⑩ SHORT)

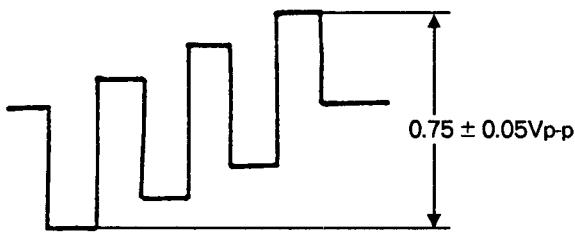


Fig. 9-27

#### 9-6-5. R-Y f<sub>0</sub> Adjustment (VI-98 Board)

Mode	E-E
Signal	SECAM colour-bar
Measurement point	Pin ② of IC702
Measuring instrument	Oscilloscope
Adjustment element	LV701
Specified value	Less than 0.05V

(Adjustment Method)

1) IC701 (⑨-⑩ SHORT)

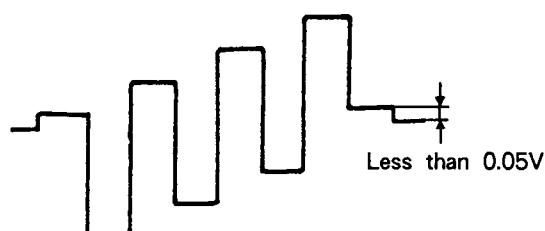


Fig. 9-28

#### 9-6-6. B-Y f<sub>0</sub> Adjustment (VI-98 Board)

Mode	E-E
Signal	SECAM colour-bar
Measurement point	Pin ③ of IC702
Measuring instrument	Oscilloscope
Adjustment element	LV702
Specified value	Less than 0.05V

(Adjustment Method)

1) IC701 (⑨-⑩ SHORT)

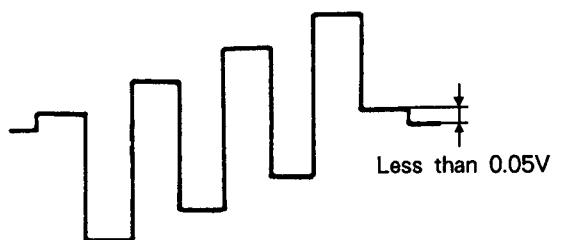


Fig. 9-29

#### 9-7. ADJUSTMENT OF AUDIO SYSTEM

- Use the video signal input consisting of color bar signal for adjustment.

##### (Connection of Audio Measurement Devices)

Connect the following audio system measurement devices in addition to video system measurement instruments.

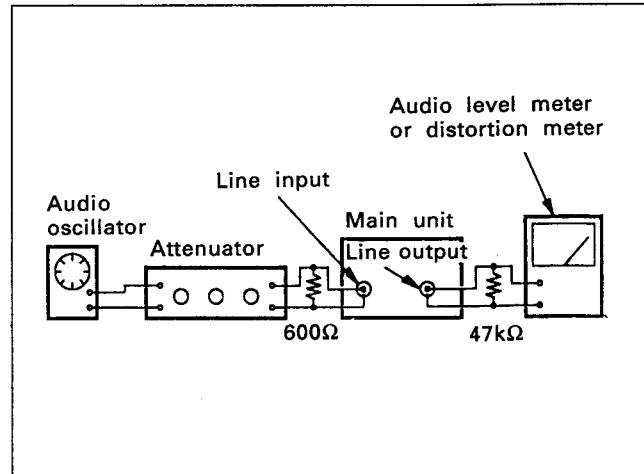


Fig. 9-30

#### (Adjustment Procedures)

1. PCM master clock oscillation frequency adjustment.
2. PCM playback VCO free oscillation frequency adjustment.
3. PCM playback level adjustment.
4. Line 1 E-E output level check.
5. Line 2 E-E output level check.
6. PCM offset adjustment.
7. PCM recording level adjustment.
8. Overall frequency characteristics check.
9. Overall distortion rate check.
10. Overall noise level check.

#### 9-7-1. PCM Audio System Adjustment

Set switches and control knobs of VTR as follows for adjustment, unless otherwise required.

- Input select button .....LINE 1/2
- Sound monitor (PCM/Mix/Standard) switch .....PCM

**Note:** Adjustment element for channel R is shown in ( ).

#### 1. PCM master clock oscillation frequency adjustment (PC-50 board)

Mode	Record
Signal	No signal
Measurement point	Pin ⑧, IC703
Instrument	Frequency counter
Adjustment element	CV701
Specified value	$11.50 \pm 0.05\text{MHz}$

#### (Adjustment Methods)

- 1) Connect Pin ⑨ of IC703 to SW 5V.
- 2) Connect Pin ⑩ of IC703 to GND.
- 3) Short pins ⑧ and j of IC703.
- 4) Adjust CV701 for  $11.50 \pm 0.05\text{MHz}$ .
- 5) After completion of adjusting, open each connection of IC703.

#### 2. PCM playback VCO free oscillation frequency adjustment (PC-50 board)

Mode	Playback
Signal	Free tape
Measurement point	Pin ⑧, IC708 (FMCK)
Instrument	Frequency counter
Adjustment element	RV707
Specified value	$11.50 \pm 0.05\text{MHz}$

#### (Adjustment Methods)

- 1) Connect Pin ① of IC708 to +5V.
- 2) Set playback mode.
- 3) Adjust RV602 for  $11.50 \pm 0.05\text{MHz}$ .
- 4) Open the connection of Pin ① of IC708.

#### 3. PCM playback level adjustment (PC-50 board)

Mode	Playback
Signal	For checking alignment tape operation (WR5-4CSP) 400Hz zone
Measurement point	Sound output L and R (Load resistance $47\text{k}\Omega$ )
Instrument	Audio level meter
Adjustment element	RV705
Specified value	$-7.5 \pm 0.3\text{dBs}$

#### (Adjustment Methods)

- 1) Adjust RV705 for  $-7.5 \pm 0.3\text{dBs}$ .

**Note:** Where there is a level difference of 1.5dBs or more between channels L and R, adjust the level to the center value.

#### 4. Line 1 E-E output level check

Mode	EE
Signal	400Hz, $-7.5\text{dBs}$ : Line 1 input L (R)
Measurement point	Line 1 output L (R) (Terminated with $47\text{k}\Omega$ )
Instrument	Audio level meter
Specified value	$-7.5\text{dBs} \pm 2\text{dBs}$

#### (Check Methods)

- 1) Slide the recording volume knob and check that the level of Line 1 output L (R) becomes  $-7.5\text{dBs}$  around center click.

#### 5. Line 2 E-E output level check

Mode	EE
Signal	400Hz, $-7.5\text{dBs}$ : Line 2 input L (R)
Measurement point	Line 2 output L (R) (terminated with $47\text{k}\Omega$ )
Instrument	Audio level meter
Specified value	$-7.5\text{dBs} \pm 2\text{dBs}$

#### (Check Methods)

- 1) Slide the recording volume knob and check that the level of Line 2 output L (R) becomes  $-7.5\text{dBs}$  around center click.

## 6. PCM offset adjustment (PC-50 board)

Mode	Record
Signal	No signal
Measurement point	Pin ② (CH2), Pin ③ (CH1), IC701
Instrument	Oscilloscope (CH2 Trigger)
Adjustment element	RV701 (RV702)
Specified value	Illuminances of upper and lower bright lines should be the same.

**Note:** Channels L and R affect each other, so alternately adjust each channel.

### (Adjustment Methods)

- 1) Adjust RV701 (RV702) for the same illuminances of upper and lower bright lines.

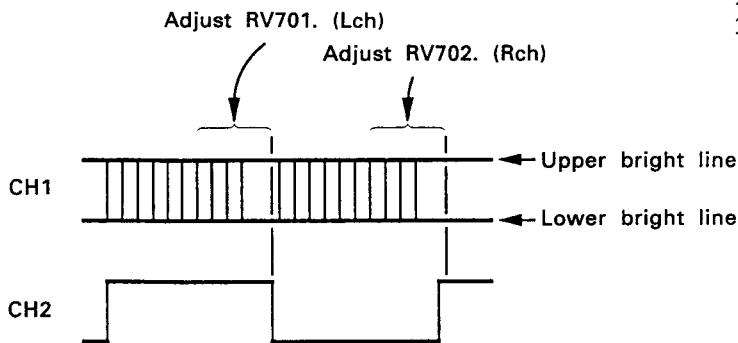


Fig. 9-31

## 7. PCM recording level adjustment (PC-50 board)

Mode	Record
Signal	400Hz, -7.5dBs Sound input (L and R)
Measurement point	Sound output L (R)
Instrument	Audio level meter
Adjustment element	RV703
Specified value	$-7.5 \pm 0.5$ dBs

**Note:** "Adjustment of PCM Playback Level" should be already finished.

### (Adjustment Methods)

- 1) Adjust the recording controls (for the left and right channels) until the line output is within  $-7.5 \pm 0.5$ dBs.
- 2) Record the signal, then play it back.
- 3) Adjust RV703 until the left-channel playback level is within  $-7.5 \pm 0.5$ dBs, then repeat recording.
- 4) Make sure that the right-channel output is within 1.5 dB with respect to the left-channel output.

## 8. Overall frequency characteristics check

Mode	Repeated self recording (LP mode)
Signal	Ⓐ 400Hz, -17.5dBs Ⓑ 20Hz, -17.5dBs Ⓒ 14kHz, -17.5dBs Line 1 input L (R)
Measurement point	Line 1 output L (R)
Instrument	Audio level meter
Specified values	Assuming 0dB of 400Hz Playback output level, 20Hz Playback output level is $0 \pm 2$ dB while 14kHz Playback level being $0 \pm 2$ dB.

### (Check Methods)

- 1) Record signals Ⓐ ~ Ⓒ sequentially.
- 2) Playback recorded parts.
- 3) Check that, assuming 0dB of 400Hz playback output level, 20Hz and 14kHz playback output levels are  $0 \pm 2$ dB and  $0 \pm 2$ dB, respectively.

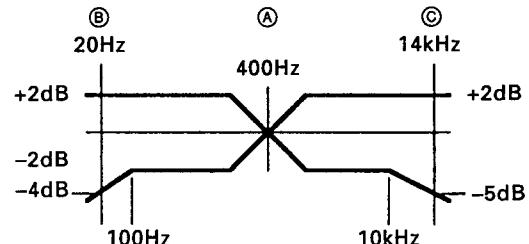


Fig. 9-32

## 9. Overall distortion rate check

Mode	Repeated self recording (LP mode)
Signal	1kHz, -7.5dBs: Line 1 input L (R)
Measurement point	Line 1 output L (R)
Instrument	Distortion meter
Specified value	0.7% or less

### (Check Methods)

- 1) Record the signal.
- 2) Playback recorded part.
- 3) Distortion rate should be 0.7% or less.

## 10. Overall noise level check

Mode	Repeated self recording (LP mode)
Signal	No signal Insert the $600\Omega$ shorting plug into both input L and R terminals of Line 1.
Measurement point	Line 1 output L (R)
Instrument	Noise meter
Specified value	64dB or above *

### (Check Methods)

- 1) Record the signal.
  - 2) Playback recorded part.
  - 3) Difference between noise level and checked value of Line 1 E-E output level should be 64dB or more (IHF-A). \*
- \* With IHF-A listening compensation filter in use

### 9-7-2. AFM Audio System Adjustment

Set switches and control knobs, etc. of VTR to the following places during adjustment, unless otherwise required.

Input select switch.....LINE 1/2  
Sound monitor (PCM/Mix/Standard)  
Switch.....Standard

### (Adjustment Procedures)

- 1) AFM carrier frequency adjustment (1.5MHz)
- 2) AFM carrier frequency adjustment (1.7MHz).
- 3) AFM deviation adjustment (1.5MHz).
- 4) E-E output level check.
- 5) AFM deviation adjustment (1.7MHz)
- 6) REC AFM matrix (L-R) adjustment.
- 7) PB AFM matrix (L-R) adjustment.
- 8) REC AFM matrix (L+R) adjustment.
- 9) PB AFM matrix (L+R) adjustment.
- 10) Overall level characteristics check.
- 11) Overall frequency characteristics check.
- 12) Overall distortion rate check.
- 13) Overall noise level check.

### 1. AFM carrier frequency adjustment (1.5MHz) (PC-50 board)

Mode	Record (SP mode)
Signal	No signal
Measurement point	Pin ⑩, IC901
Instrument	Frequency counter
Adjustment element	RV901
Specified value	$1500 \pm 3\text{kHz}$

### (Adjustment Methods)

- 1) Pull up Pin ⑩ of IC401 to +5V using  $1k\Omega$ .
- 2) Adjust RV901 for  $1500 \pm 3\text{kHz}$ .
- 3) After completion of adjusting, reset pull-up of IC401.

### 2. AFM carrier frequency adjustment (1.7MHz) (PC-50 board)

Mode	Record (SP mode)
Signal	No signal
Measurement point	Pin ⑩, IC801 (VCO OUT)
Instrument	Frequency counter
Adjustment element	RV801
Specified value	$1700 \pm 3\text{kHz}$

### (Adjustment Methods)

- 1) Pull up Pin ⑩ of IC401 to +5V using  $1k\Omega$ .
- 2) Adjust RV801 for  $1700 \pm 3\text{kHz}$ .
- 3) After completion of adjusting, reset pull-up of IC401.

### 3. AFM deviation adjustment (1.5MHz) (PC-50 board)

Mode	Record, stereo mode
Signal	Enter 400Hz -7.5dBs into the line input of RJ-20 board
Measurement point	Pin ⑩, IC901
Instrument	Oscilloscope
Adjustment element	RV902
Specified value	$\pm 60 \pm 0.5\text{kHzp-p}$

### (Adjustment Methods)

- 1) Adjust RV902 for the output level of  $\pm 60 \pm 0.5\text{kHzp-p}$ .

### 4. E-E output level check

Check items of channel R are shown in ( ).

Mode	EE
Signal	400Hz -7.5dBs: Sound input (both L and R channels)
Measurement point	Line output L (R) (terminated with $47k\Omega$ )
Instrument	Audio level meter
Specified value	$-7.5 \pm 2\text{dBs}$

### (Check Methods)

- 1) Sound output L (R) level should be  $-7.5 \pm 2\text{dBs}$ .

### 5. AFM deviation adjustment (1.7 MHz) (PC-50 board)

Mode	Playback
Signal	Alignment tape: WR5-9CS Operation checking (AFM Bilingual Tape)
Measurement point	Audio output L
Measuring instrument	Audio level meter
Adjustment element	RV802
Specified value	$-7.5 \pm 0.5\text{dBs}$

### (Adjustment Method)

- 1) Adjust to  $-7.5 \pm 0.5\text{dBs}$  using RV802.

## 6. REC AFM matrix (L-R) adjustment (PC-50 board)

Mode	REC
Signal	400Hz, -7.5dBs L, R Common phase signal
Measurement point	Pin ⑩ IC801
Measuring instrument	Audio level meter
Adjustment element	RV953
Specified value	Less than -60dBs

## 7. PB AFM matrix (L-R) adjustment (PC-50 board)

Mode	Playback
Signal	Playback WR5-9CS the 400Hz, -7.5dBs L, R common phase signal
Measurement point	Pin ⑦ IC905
Measuring instrument	Audio level meter
Adjustment element	RV952
Specified value	Less than -35dBs

## 8. REC AFM matrix (L+R) adjustment (PC-50 board)

Mode	REC
Signal	400Hz, -7.5dBs L, R uniphase signal
Measurement point	Pin ⑩ IC901
Measuring instrument	Audio level meter
Adjustment element	RV951
Specified value	Less than -60dBs

## 9. PB AFM matrix (L+R) adjustment (PC-50 board)

Mode	Playback
Signal	Playback WR5-9CS the 400Hz, -7.5dBs L, R uniphase signal
Measurement point	Pin ① IC906
Measuring instrument	Audio level meter
Adjustment element	RV954
Specified value	Less than -35dBs

## 10. Overall level characteristics check

Mode	Repeated self recording (SP and LP modes)
Signal	400Hz, -7.5dBs: Sound input (both L and R channels)
Measurement point	Line 1 output L (R) (terminated with 47kΩ)
Instrument	Audio level meter
Specified value	-7.5 ± 3dBs

### (Check Methods)

- 1) Record the signal.
- 2) Playback recorded part.
- 3) Sound output level should be  $-7.5 \pm 3$  dBs.
- 4) Adjust RV902 and RV802 again if the output level is not within specified value.

## 11. Overall frequency characteristics check

Mode	Repeated self recording (LP mode)
Signal	Ⓐ 400Hz, -17.5dBs Ⓑ 30Hz, -17.5dBs Ⓒ 14kHz, -17.5dBs Sound output (both L and R channels)
Measurement point	Sound output L (R)
Instrument	Audio level meter
Specified value	Assuming 0dB of 400Hz playback output level, playback output levels of 30Hz and 14kHz should be $0 \pm 3$ dB.

### (Check Methods)

- 1) Record signals Ⓐ ~ Ⓒ sequential.
- 2) Playback recorded part.
- 3) Assuming 0dB of 400Hz playback output level, playback output levels of 30Hz and 14kHz should be  $0 \pm 3$  dB.

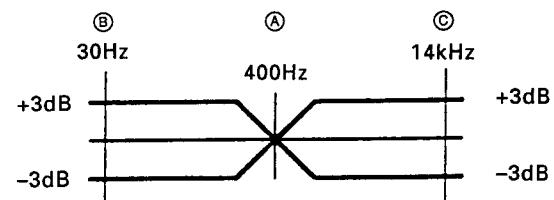


Fig. 9-33 Overall frequency characteristics check

## 12. Overall distortion rate check

Mode	Repeated self recording (LP mode)
Signal	1kHz, -7.5dBs: Line 1 input (both L and R channels)
Measurement point	Sound output L (R) (terminated with 47kΩ)
Instrument	Distortion meter
Specified value	1.0% or less (with distortion rate measuring filter in use)

### (Check Methods)

- 1) Record the signal.
- 2) Playback recorded part.
- 3) Distortion rate should be 1.0% or less.



Fig. 9-34 Filter for measuring distortion rate

## 13. Overall noise level check

Mode	Repeated self recording (LP mode)
Signal	No signal Insert the 600Ω shorting plug into both sound input L and R terminals.
Measurement point	Sound output L (R)
Instrument	Audio level meter
Specified value	-55dBs or less *

### (Checking Methods)

- 1) Record the signal.
- 2) Playback recorded part.
- 3) Difference between noise level and checked overall level characteristics should be 55dB or above. \*

\* With IHF-A listening compensation filter in use

## 9-8. ADJUSTMENT OF TUNER SYSTEM

### 9-8-1. RF AGC Adjustment (IF001 Unit/TU-100 Board)

Signal	Broadcast TV signal
Adjustment element	VR of IF001 unit

#### (Adjustment Method)

- 1) Adjust the monitor TV to a maximum contrast.
- 2) Turn the VR to make snow noise visible.
- 3) Turn the VR in an opposite direction and set it to the point where the snow noise disappears.
- 4) Receive each channel and confirm that there are no beat picture corruption snow noises due to cross modulation.

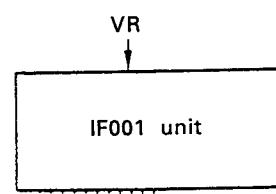


Fig. 9-35

### 9-8-2. Receive Separation (MPX) Adjustment (TU-100 Board)

Signal	Stereo (AERIAL IN) Lch: 400 Hz, 100% modulation of RF Rch: No modulation
Connection point	Audio line output: L and R channels
Measurement equipment	Oscilloscope
Adjustment element	RV001

#### (Setting of The Switch)

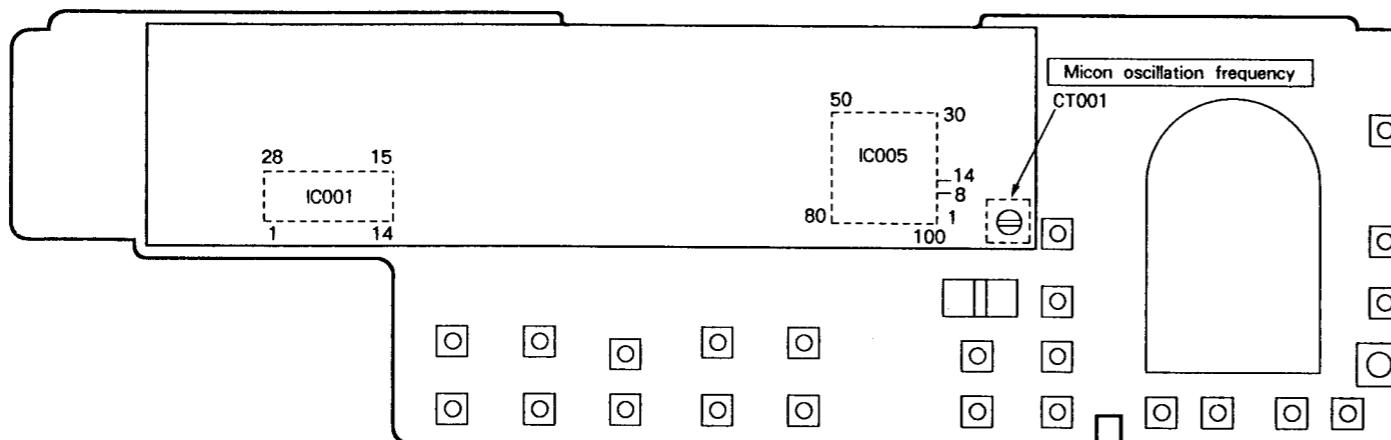
- RV101-L (FR-4 board) ..... Center click  
RV101-R (FR-4 board) ..... Center click

#### (Adjustment Method)

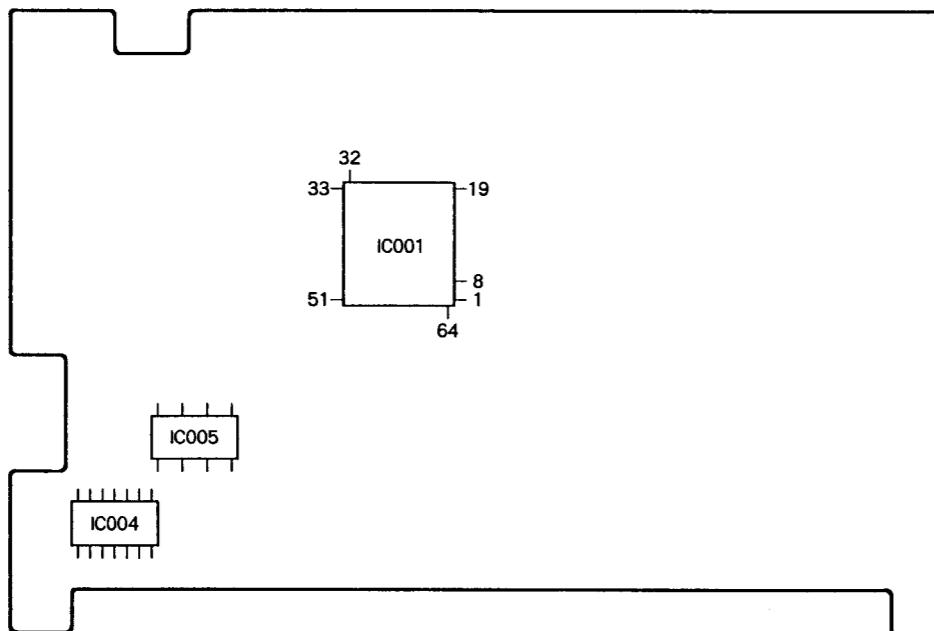
- 1) Set the sound multiplex signal generator in the Stereo mode, and set only Lch to 400Hz, 100% modulation.
- 2) Connect the oscilloscope to the Rch of Audio Line Output.
- 3) Adjust RV001 to minimize Rch output.  
When this is done, do not fully turn RV001.  
(The "STEREO" indicator must be illuminated).

### 9-9. ARRANGEMENT DIAGRAM FOR ADJUSTMENT PARTS

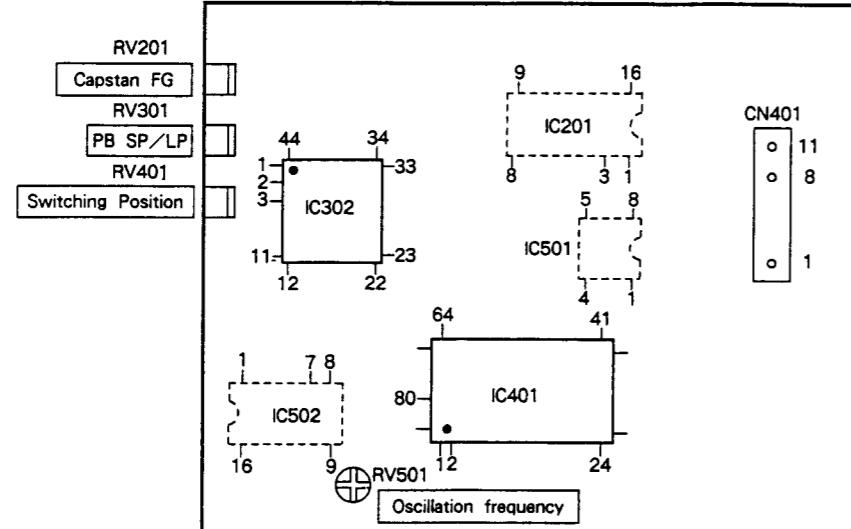
FR-60 BOARD (COMPONENT SIDE)



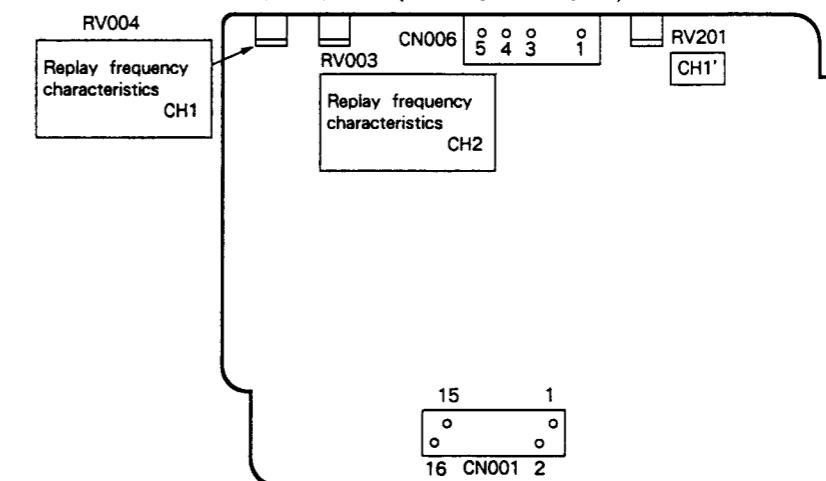
ST-41 BOARD (CONDUCTOR SIDE)



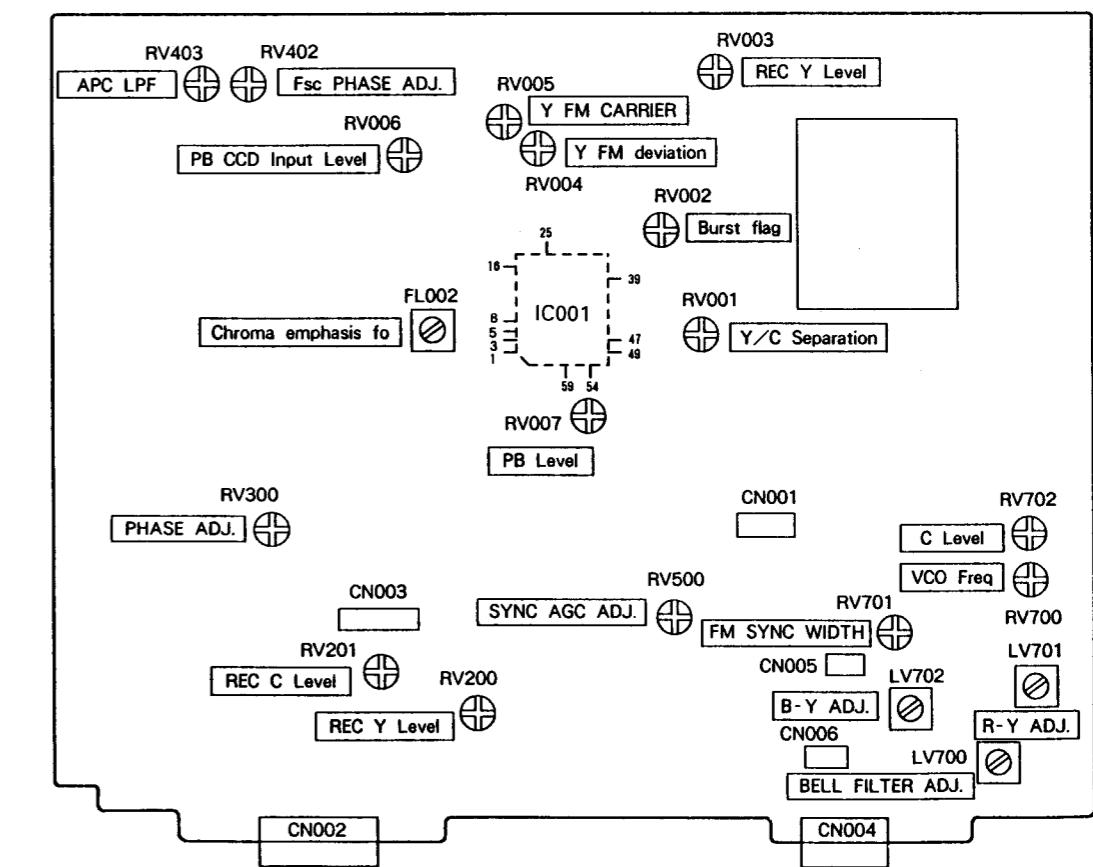
CM-13 BOARD (COMPONENT SIDE)



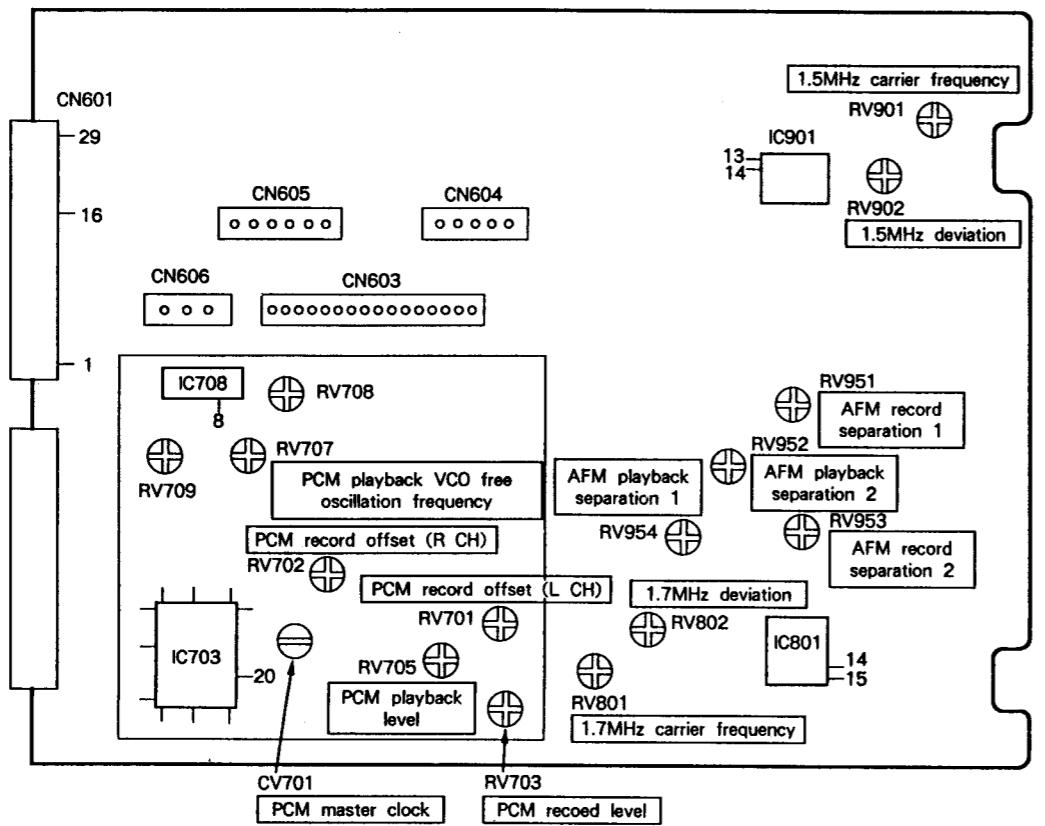
RP-69 BOARD (COMPONENT SIDE)



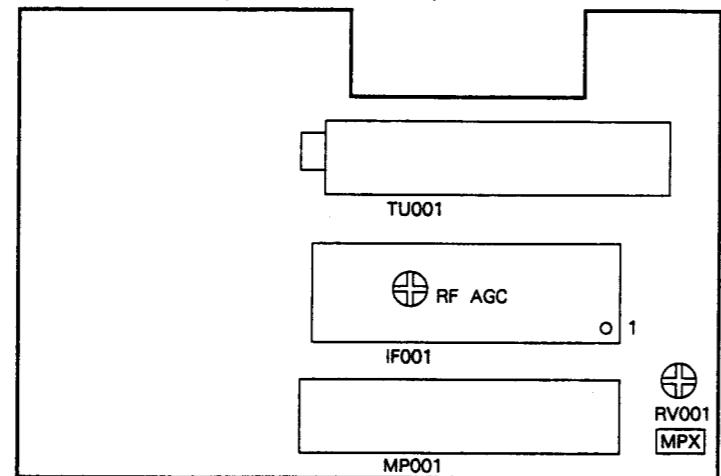
VI-98 BOARD (COMPONENT SIDE)



PC-50 BOARD (COMPONENT SIDE)



TU-100 BOARD (COMPONENT SIDE)



# EV-S550B/S550E

## RMT-456

### SECTION 4 DIAGRAM

#### 4-17. POWER SUPPLY BLOCK DIAGRAM

**SONY®  
SERVICE MANUAL**

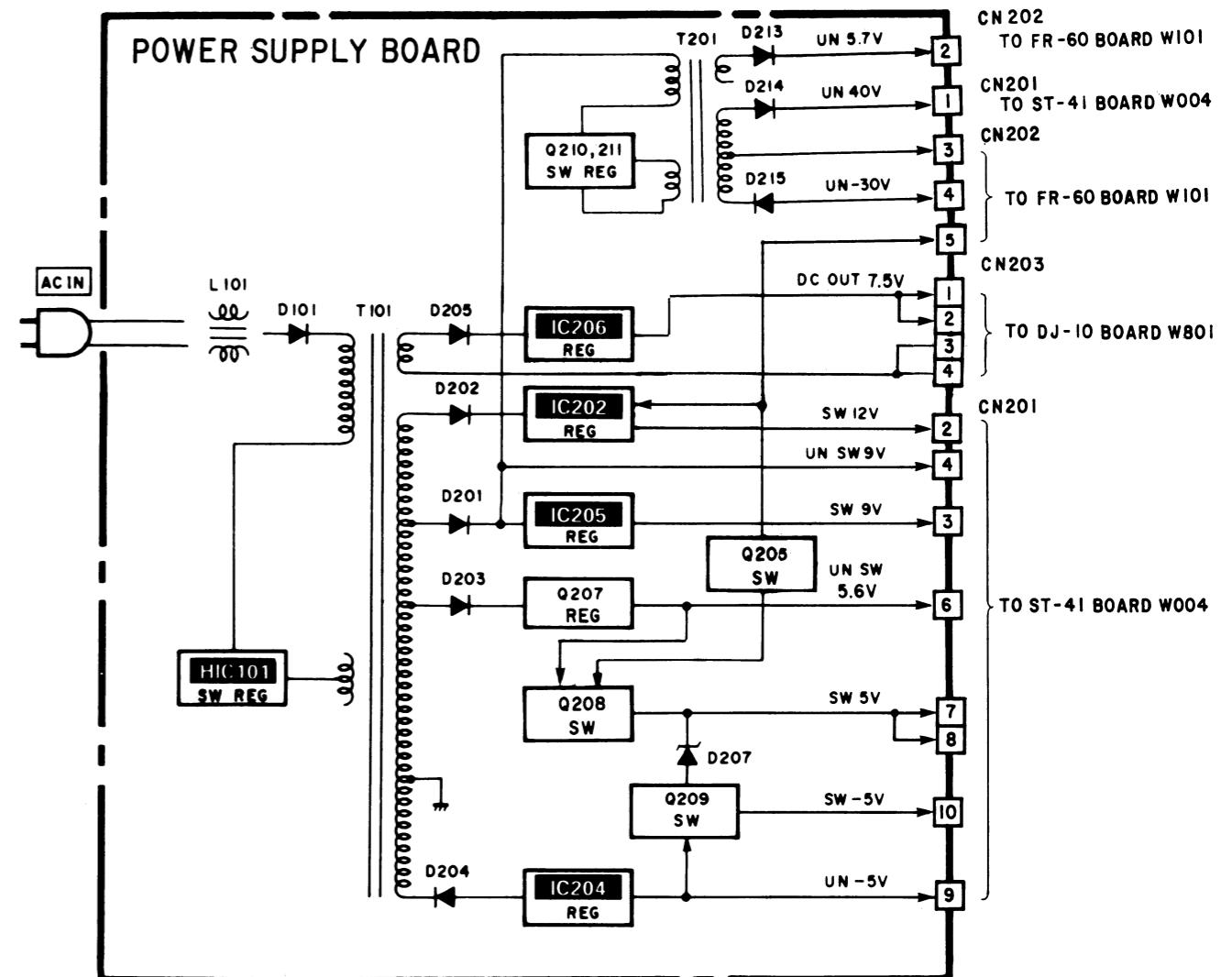
French Model  
AEP Model

## SUPPLEMENT-1

- Although the power block was supplied thus far in ASSY, it has now changed to disassembly services. Therefore, this board is detailed in the following.
- Use this manual in conjunction with the SERVICE MANUAL of EV-S550B and EV-S550E.

This supplement includes only the following items.

1. 4-17 POWER SUPPLY BLOCK DIAGRAM
2. 5-2 HS-46SH PRINTED WIRING BOARD  
HS-46SH SCHEMATIC DIAGRAMS
3. 7 HS-46SH ELECTRICAL PARTS LIST



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## SECTION 5

### PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

#### 5-2. PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

##### • HS-46SH Board

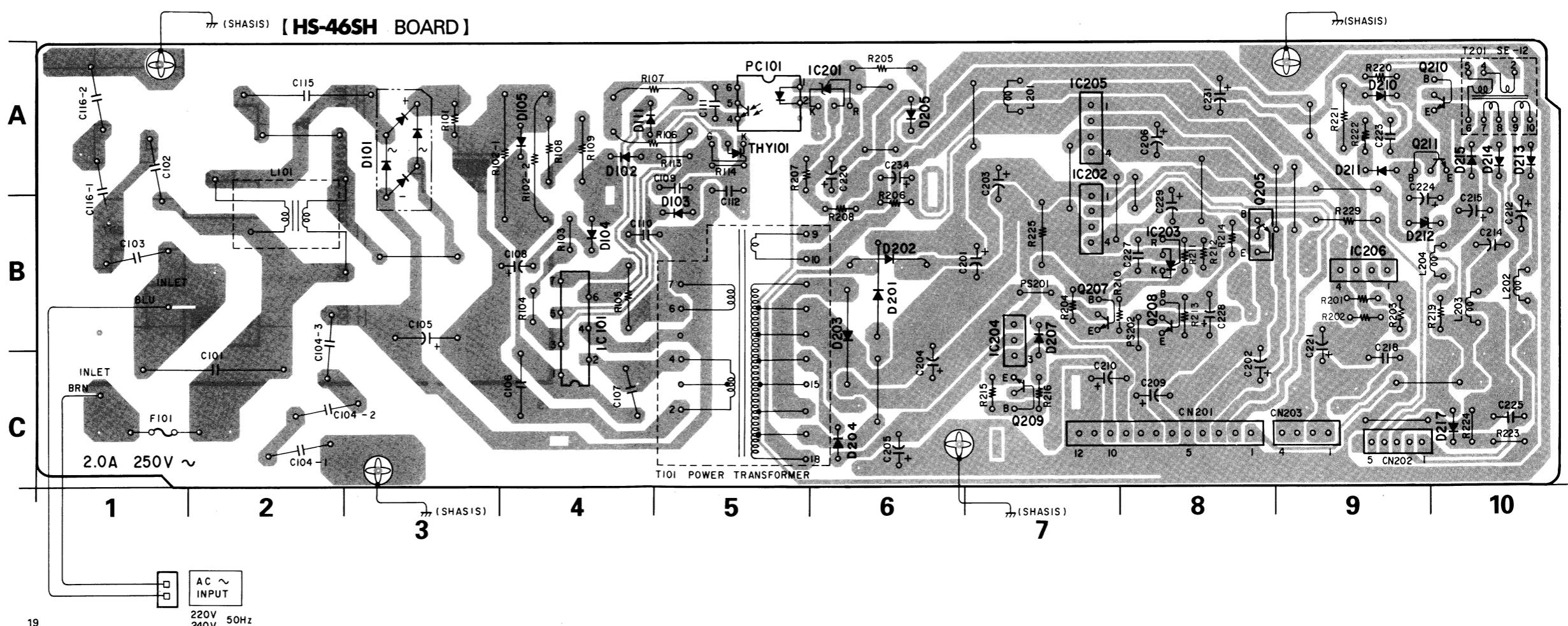
**HS-46SH (POWER SUPPLY) PRINTED WIRING BOARD**  
—Ref. No. HS-46SH Board: 1000 series—

		DIODE		IC	
D101	△ 8-719-500-38	DIODE D2SB60		HIC101	△ 9-998-360-01 HBIC MA2831P
D102	8-719-100-68	DIODE RD13ES82,HZS13EB2		IC201	8-759-321-95 IC HA17431PA,AN1431T
D103	8-719-107-76	DIODE 1SS202,1SS270A		IC203	8-759-321-95 IC HA17431PA,AN1431T
D104	9-998-358-01	DIODE D1N60		IC202	9-998-361-01 IC PQ12RF11
D105	9-998-358-01	DIODE D1N60		IC204	9-998-362-01 IC AN79N05,μPC79N05H
				IC205	9-998-363-01 IC PQ09RF11
D111	9-998-358-01	DIODE D1N60		IC206	9-998-364-01 IC PQ30RV21
D201	8-719-500-66	DIODE S3LA20			
D202	8-719-907-30	DIODE ER884-009			
D203	8-719-903-06	DIODE ERC84-009			
D204	8-719-510-46	DIODE D1NL20,ERA91-02			
D205	9-998-359-01	DIODE D5S6M,D5S9M		Q205	8-729-900-80 TRANSISTOR DTC114ES,UN4211
D207	8-719-109-93	DIODE RD6.2ESB2,HZS6.2EB2		Q207	8-729-900-80 TRANSISTOR 2SD2061G
D209	8-719-107-76	DIODE 1SS202,1SS270A		Q208	9-998-367-01 TRANSISTOR 2SB1331,2SB1010
D211	8-719-109-57	DIODE RD2.4ESB2,HZS2.4EB2		Q209	8-729-926-62 TRANSISTOR 2SD2005(R),2SC2061
D212	8-719-110-88	DIODE RD39ESB2,HZS39EB2		Q210	8-729-906-97 TRANSISTOR 2SD2061F
D213	8-719-510-46	DIODE D1NL20,ERA91-02		Q211	9-998-366-01 TRANSISTOR 2SC1741S
D214	8-719-510-46	DIODE D1NL20,ERA91-02			
D215	8-719-510-46	DIODE D1NL20,ERA91-02			
D217	8-719-110-13	DIODE RD9.1ESB2,HZS9.1EB2			

**Caution:**  
**Pattern face side:** Parts on the pattern face side seen from the conductor side.  
**Parts face side:** Parts on the parts face side seen from the component side.

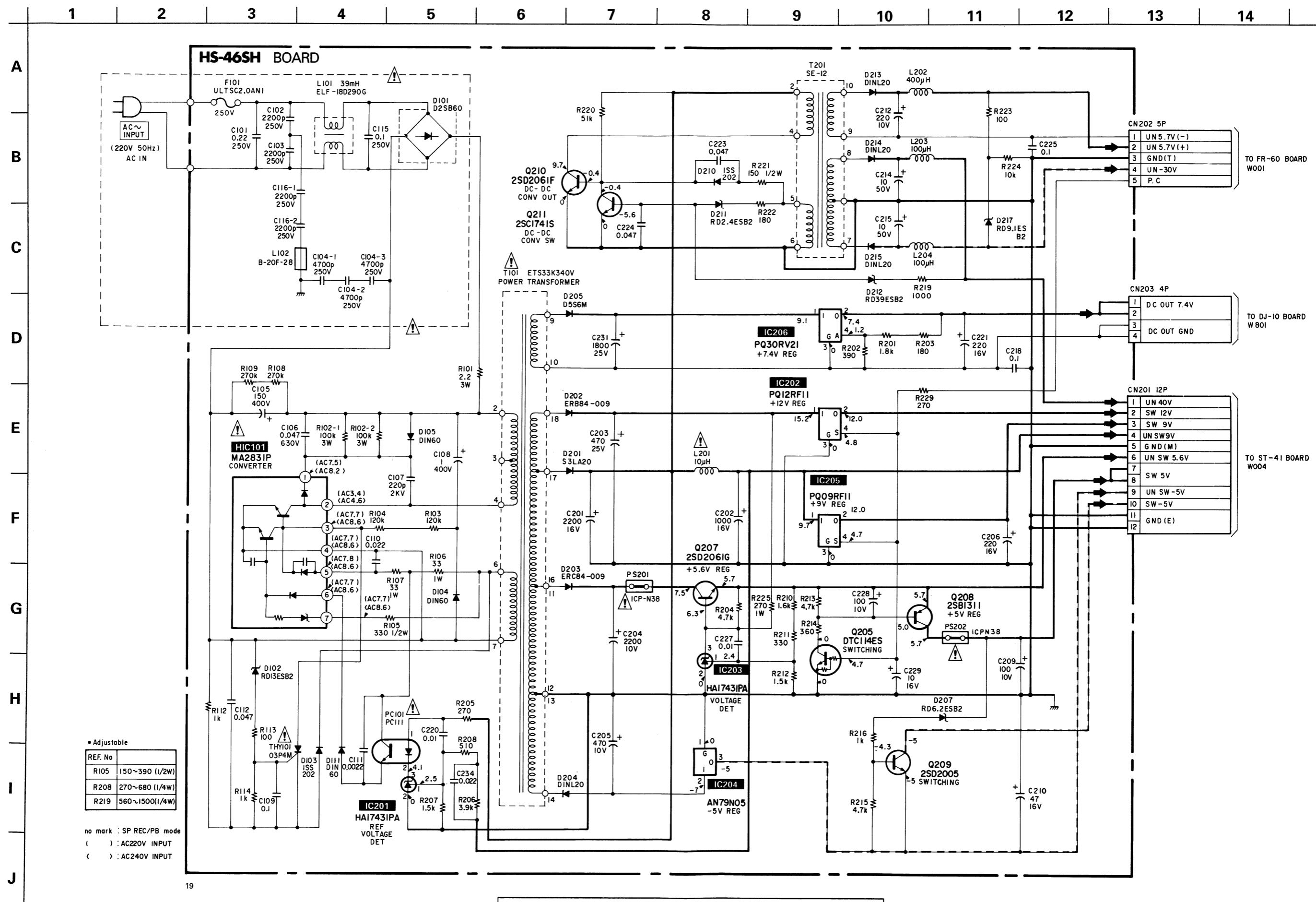
##### ● SEMICONDUCTOR LOCATION

Ref. No.	Location
D101	B-3
D102	B-5
D103	B-5
D104	B-4
D105	B-4
D111	B-5
D201	C-6
D202	B-6
D203	C-6
D204	D-6
D205	A-6
D207	C-7
D210	A-9
D211	B-9
D212	B-10
D213	B-10
D214	B-10
D215	B-10
D217	D-10
IC101	C-4
IC201	A-6
IC202	B-8
IC203	B-8
IC204	C-7
IC205	A-8
IC206	B-9
PC101	A-5
THY101	B-5
Q205	B-9
Q207	C-8
Q208	C-8
Q209	C-7
Q210	A-10
Q211	B-10



HS-46SH (POWER SUPPLY) SCHEMATIC DIAGRAM

—Ref. No. HS-46SH Board: 1000 series—



## SECTION 7

### ELECTRICAL PARTS LIST

#### HS-46SH

##### NOTE:

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS**  
All resistors are in ohms  
METAL : Metal-film resistor  
METAL OXIDE : Metal Oxide-film resistor  
F : nonflammable
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS**  
In each case, u :  $\mu$ , for example:  
uA...:  $\mu$ A..., uPA...:  $\mu$ PA...  
uPB...:  $\mu$ PB..., uPC...:  $\mu$ PC...  
uPD...:  $\mu$ PD...
- CAPACITORS**  
MF :  $\mu$ F, PF :  $\mu\mu$ F
- COILS**  
MMH : mH, uH :  $\mu$ H

#### Ref. No. Part No. Description Remark

\*1-413-591-11 HS-46SJ FLEXING REGULATOR ASSY  
(Ref. No. 1000 Series)

\*3-742-561-31 PS SEALED CASE  
\*3-742-562-02 PS SEALED CASE COVER  
\* HEAT RADIATE PLATE, SCREW,  
\* CLAMPER, PLATING, JUMPER, CODE  
\* etc.  
\*9-998-377-01 PRINTING BOARD

##### CAPACITOR

C101	$\Delta$ 1-136-937-11	FILM	0.22MF	AC250V
C102	$\Delta$ 9-998-369-01	CERAMIC	2200PF	AC250V
C103	$\Delta$ 9-998-369-01	CERAMIC	2200PF	AC250V
C104-1	$\Delta$ 9-998-368-01	CERAMIC	4700PF	AC250V
C104-2	$\Delta$ 9-998-368-01	CERAMIC	4700PF	AC250V
C104-3	$\Delta$ 9-998-368-01	CERAMIC	4700PF	AC250V
C105	9-998-370-01	ELECT	150MF	400V
C106	9-998-371-01	FILM	0.047MF	630V
C107	9-998-372-01	CERAMIC	220PF	2KV
C108	9-998-373-01	ELECT	1MF	400V
C109	1-130-528-11	FILM	0.1MF	50V
C110	1-130-520-11	FILM	0.022MF	50V
C111	1-130-508-11	FILM	0.0022MF	50V
C112	1-130-524-11	FILM	0.047MF	50V
C115	$\Delta$ 1-136-472-15	FILM	0.1MF	AC250V
C116-1	$\Delta$ 9-998-369-01	CERAMIC	2200PF	AC250V
C116-2	$\Delta$ 9-998-369-01	CERAMIC	2200PF	AC250V
C201	1-126-589-11	ELECT	2200MF	16V(105°C)
C202	1-126-588-11	ELECT	1000MF	16V(105°C)
C203	9-998-374-01	ELECT	470MF	25V(105°C)
C204	9-998-375-01	ELECT	2200MF	10V(105°C)
C205	1-126-586-11	ELECT	470MF	10V(105°C)
C206	1-124-118-51	ELECT	220MF	16V
C209	1-124-443-51	ELECT	100MF	10V
C210	1-124-474-51	ELECT	47MF	16V
C212	1-124-444-51	ELECT	220MF	10V
C214	1-124-907-51	ELECT	10MF	50V
C215	1-124-907-51	ELECT	10MF	50V
C218	1-130-528-11	FILM	0.1MF	50V
C220	1-130-516-11	FILM	0.01MF	50V

C221	1-124-118-51	ELECT	220MF	16V
C223	1-130-524-11	FILM	0.047MF	50V
C224	1-130-524-11	FILM	0.047MF	50V
C225	1-130-528-11	FILM	0.1MF	50V
C227	1-130-516-11	FILM	0.01MF	50V
C228	1-124-443-51	ELECT	100MF	10V
C229	1-124-907-51	ELECT	10MF	16V
C231	9-998-376-01	ELECT	1800MF	25V(105°C)

#### HS-46SH

##### Ref. No. Part No. Description Remark

L204 9-998-357-01 COIL HCD-3101H 100UH

##### PHOTOCOUPLER

PC101  $\Delta$  8-719-939-00 PHOTOCOUPLER PC111

##### IC PROTECTOR

PS201  $\Delta$  1-532-675-21 IC PROTECTOR ICP-N38, ICP-F38

PS202  $\Delta$  1-532-675-21 IC PROTECTOR ICP-N38, ICP-F38

##### TRANSISTOR

Q205 8-729-900-80 TRANSISTOR DTC114ES, UN4211

Q207 8-729-900-80 TRANSISTOR 2SD2061G

Q208 9-998-367-01 TRANSISTOR 2SB1331, 2SB1010

Q209 8-729-926-62 TRANSISTOR 2SD2005(R), 2SC2061

Q210 8-729-906-97 TRANSISTOR 2SD2061F

##### RESISTOR

R101 9-998-379-01 CEMENT 2.2 3W

R102-1 1-215-929-51 METAL 100K 3W

R102-2 1-215-929-51 METAL 100K 3W

R103 9-998-380-01 CARBON 120K 1/4W

R104 9-998-380-01 CARBON 120K 1/4W

R105 1-247-745-51 CARBON 150-390 1/2W

R106 1-215-860-51 METAL 33 1W

R107 1-215-860-51 METAL 33 1W

R108 1-244-931-51 CARBON 270K 1/2W

R109 1-244-931-51 CARBON 270K 1/2W

R112 1-247-831-31 CARBON 1K 1/4W

R113 1-247-807-31 CARBON 100 1/4W

R114 1-247-831-31 CARBON 1K 1/4W

R201 1-215-427-31 METAL 1.8K 1/4W

R202 1-215-411-31 METAL 390 1/4W

R203 1-215-403-31 METAL 180 1/4W

R204 1-247-847-31 CARBON 4.7K 1/4W

R205 1-244-859-51 CARBON 270 1/2W

R206 1-215-435-31 METAL 3.9K 1/4W

R207 1-215-425-31 METAL 1.5K 1/4W

R208 1-215-438-31 METAL 270-680 1/4W

R210 1-215-426-31 METAL 1.6K 1/4W

R211 1-247-819-31 CARBON 330 1/4W

R212 1-215-425-31 METAL 1.5K 1/4W

R213 1-247-847-31 CARBON 4.7K 1/4W

R214 1-247-820-31 CARBON 360 1/4W

R215 1-247-847-31 CARBON 4.7K 1/4W

R216 1-247-831-31 CARBON 1K 1/4W

R219 1-215-421-31 METAL 560-1.5K 1/4W

R220 1-247-872-31 CARBON 51K 1/4W

R221 1-247-811-31 CARBON 150 1/2W

R222 1-247-813-31 CARBON 180 1/4W

R223 1-247-807-31 CARBON 100 1/4W

R224 1-247-855-31 CARBON 10K 1/4W

R225 1-216-429-51 METAL 270 1W

R229 1-247-817-31 CARBON 270 1/4W

##### TRANSFORMER

T101  $\Delta$  9-998-352-01 TRANSFORMER ETS33K340V

T201 9-998-353-01 TRANSFORMER SE-12

##### THYRISTOR

THY101  $\Delta$  9-998-365-01 THYRISTOR 03P4M, SF03G42

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

L101	$\Delta$ 9-998-354-01	COIL ELF-18D427F	39MMH
L102	$\Delta$ 9-998-351-01	FERRITE BEADS B-20F-28	
L201	$\Delta$ 9-998-355-01	COIL PC7-100M	10UH

# EV-S550B/S550E

## RMT-456

**SONY.**  
**SERVICE MANUAL**

*AEP Model*  
*Australian Model*  
*EV-S550E*

*French Model*  
*EV-S550B*

## SUPPLEMENT-2

File this supplement with the service manual.

**Replace PC-50 Board with PC-56 Board**

### TABLE OF CONTENTS

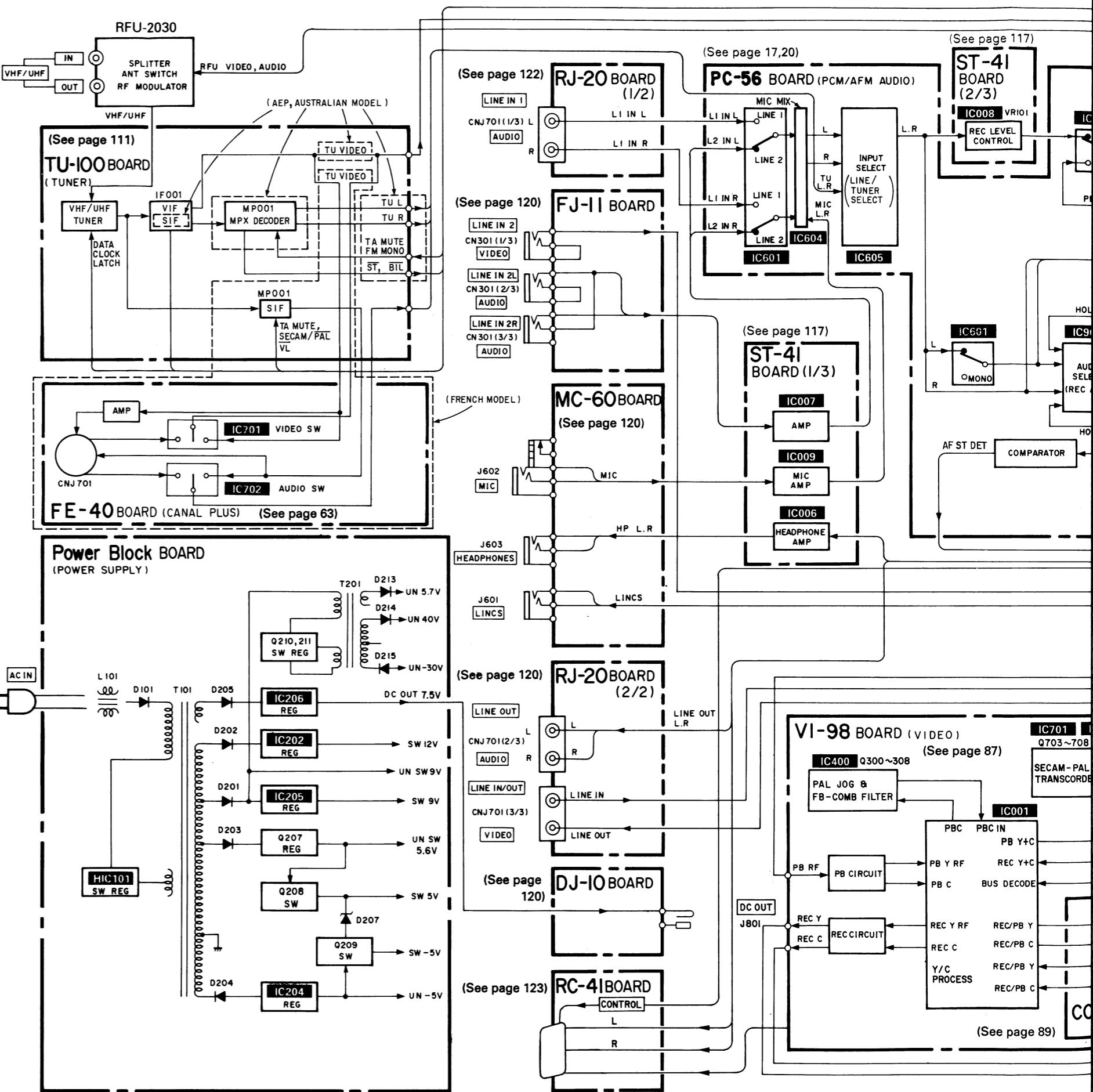
<u>Section</u>	<u>Title</u>	<u>Page</u>
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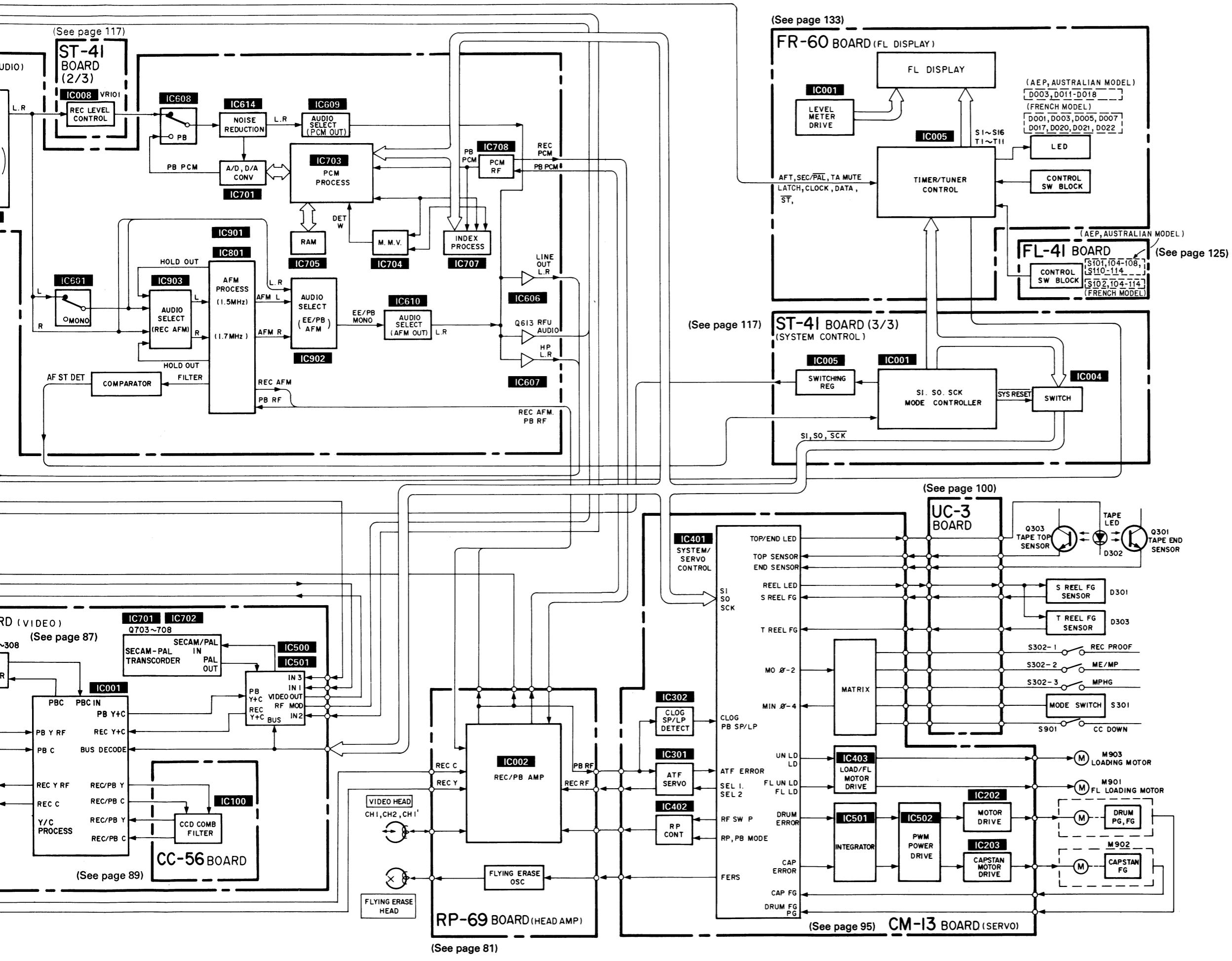
# **SECTION 1**

# **BLOCK DIAGRAMS**

## **1-1. OVERALL BLOCK DIAGRAM**

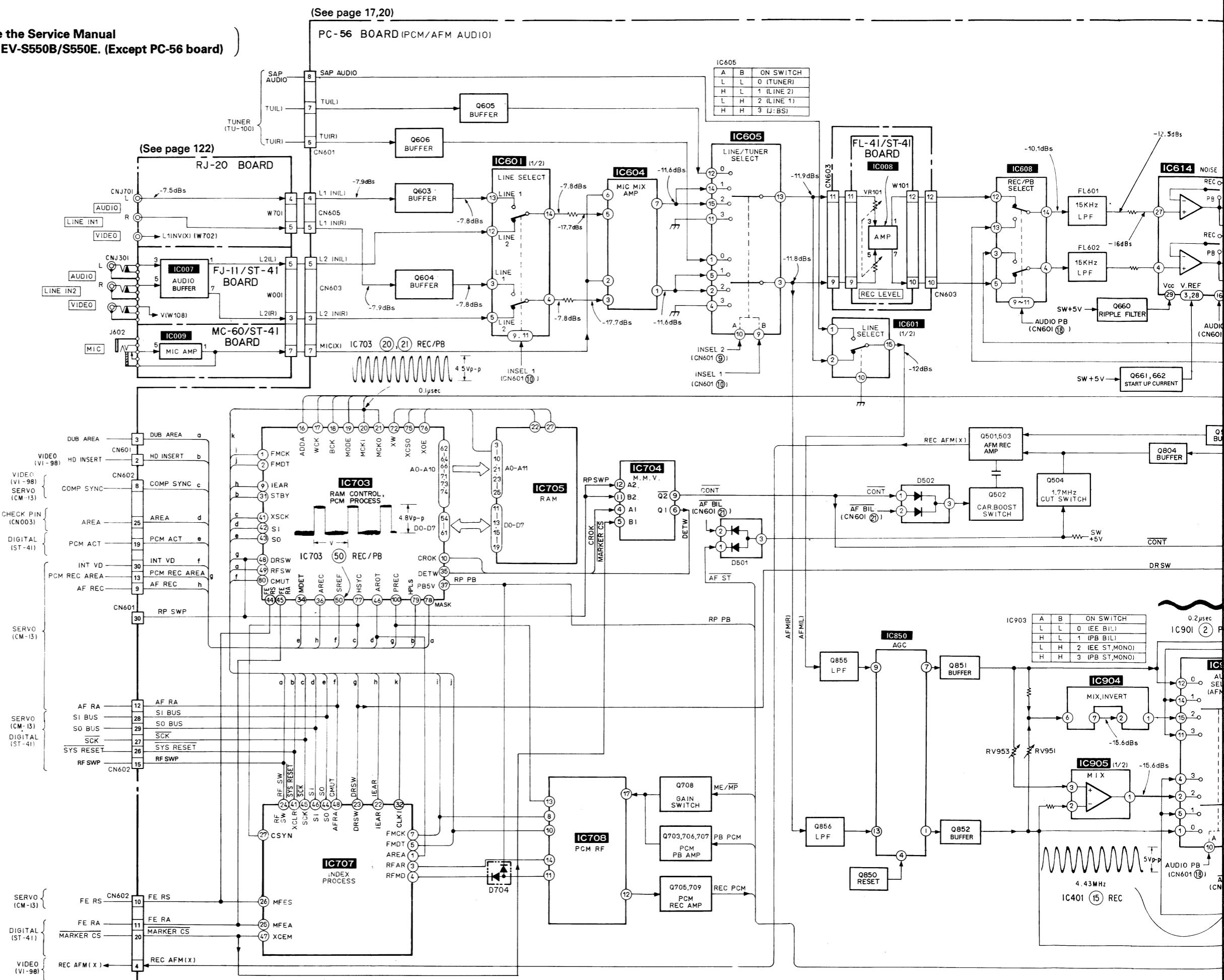
( Regarding reference pages in this diagram : See the Service Manual for EV-S550B/S550E. (Except PC-56 board) )

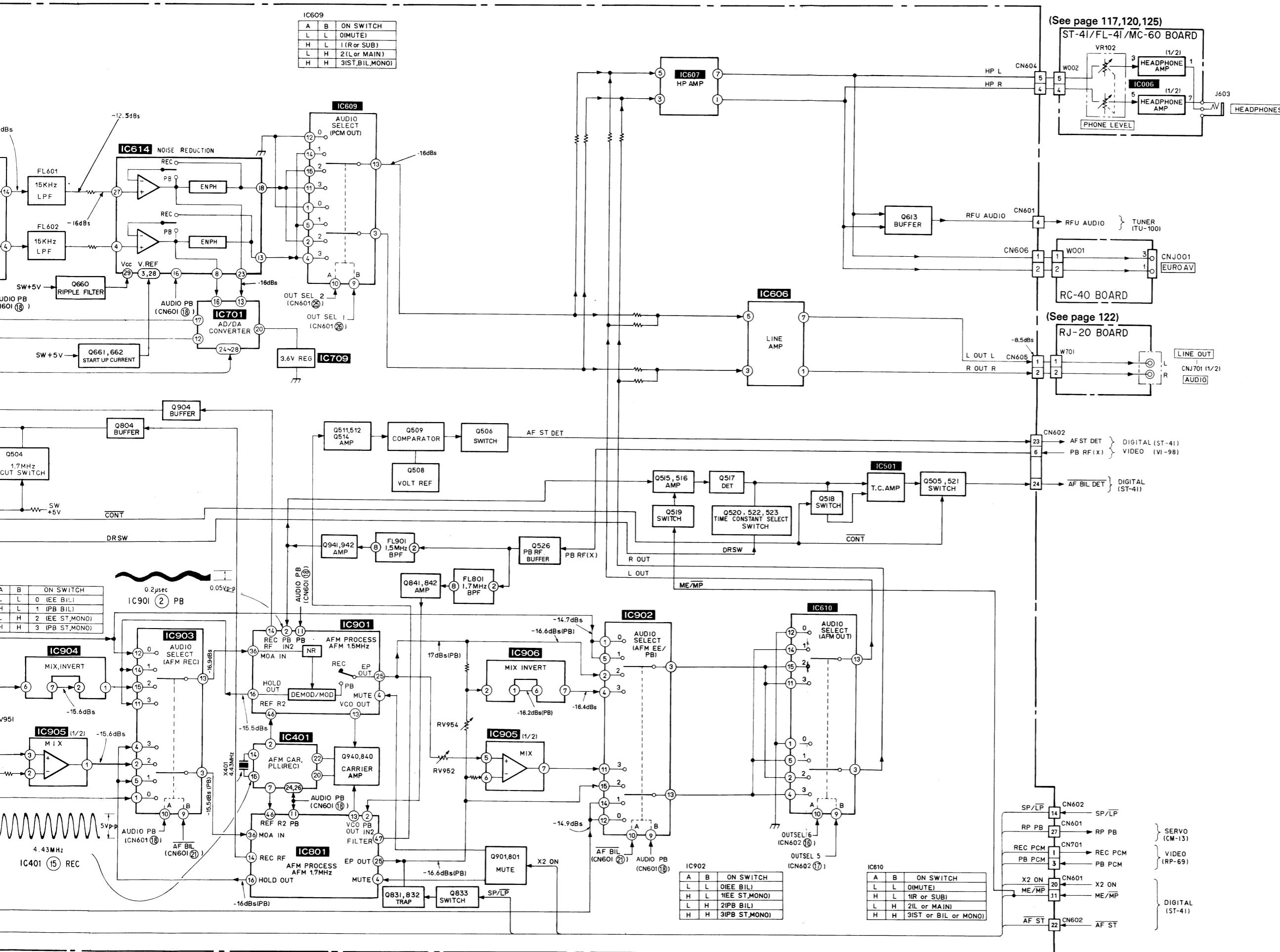




## **1-2. AUDIO BLOCK DIAGRAM**

( Regarding reference pages in this diagram : See the Service Manual  
for EV-S550B/S550E. (Except PC-56 board) )



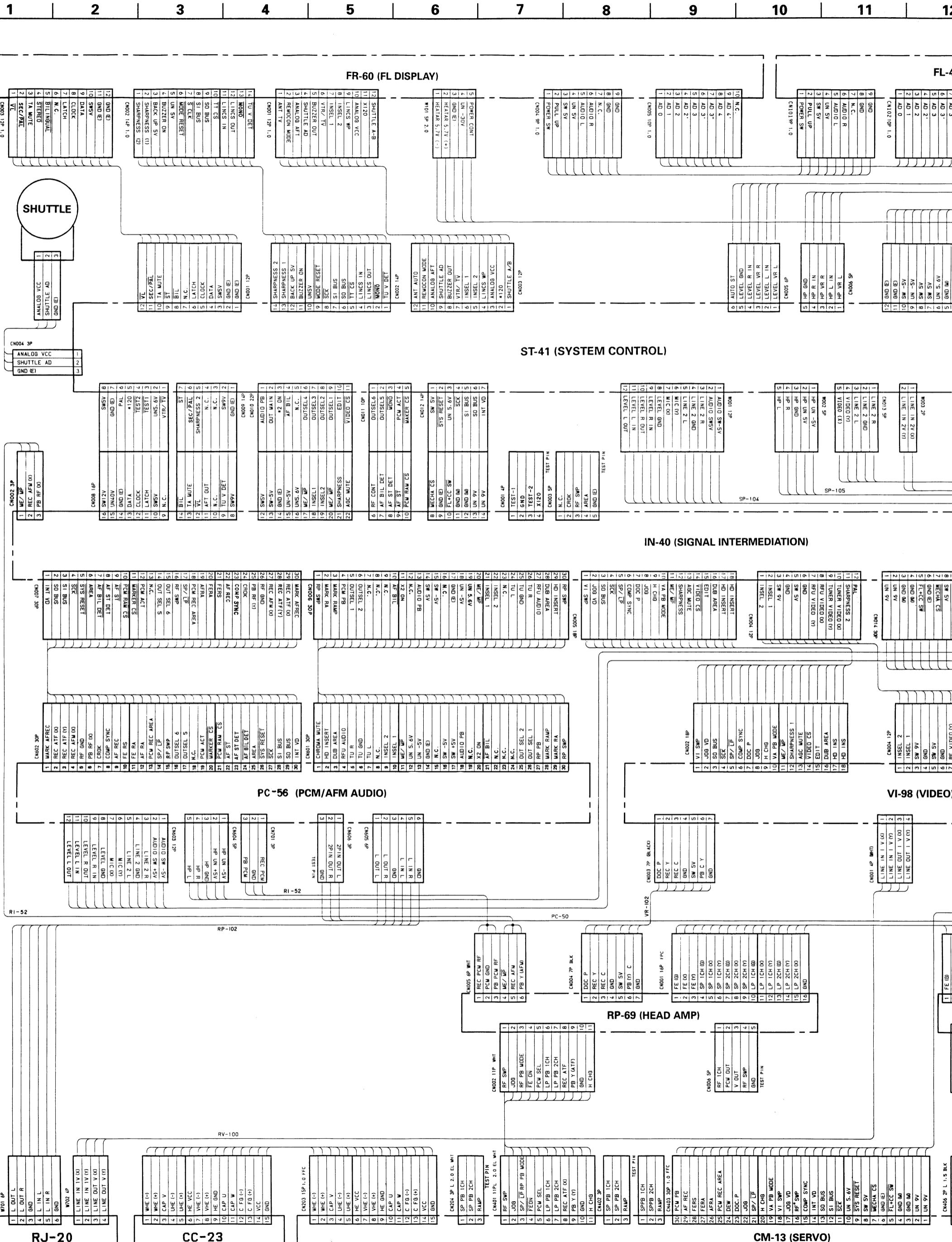


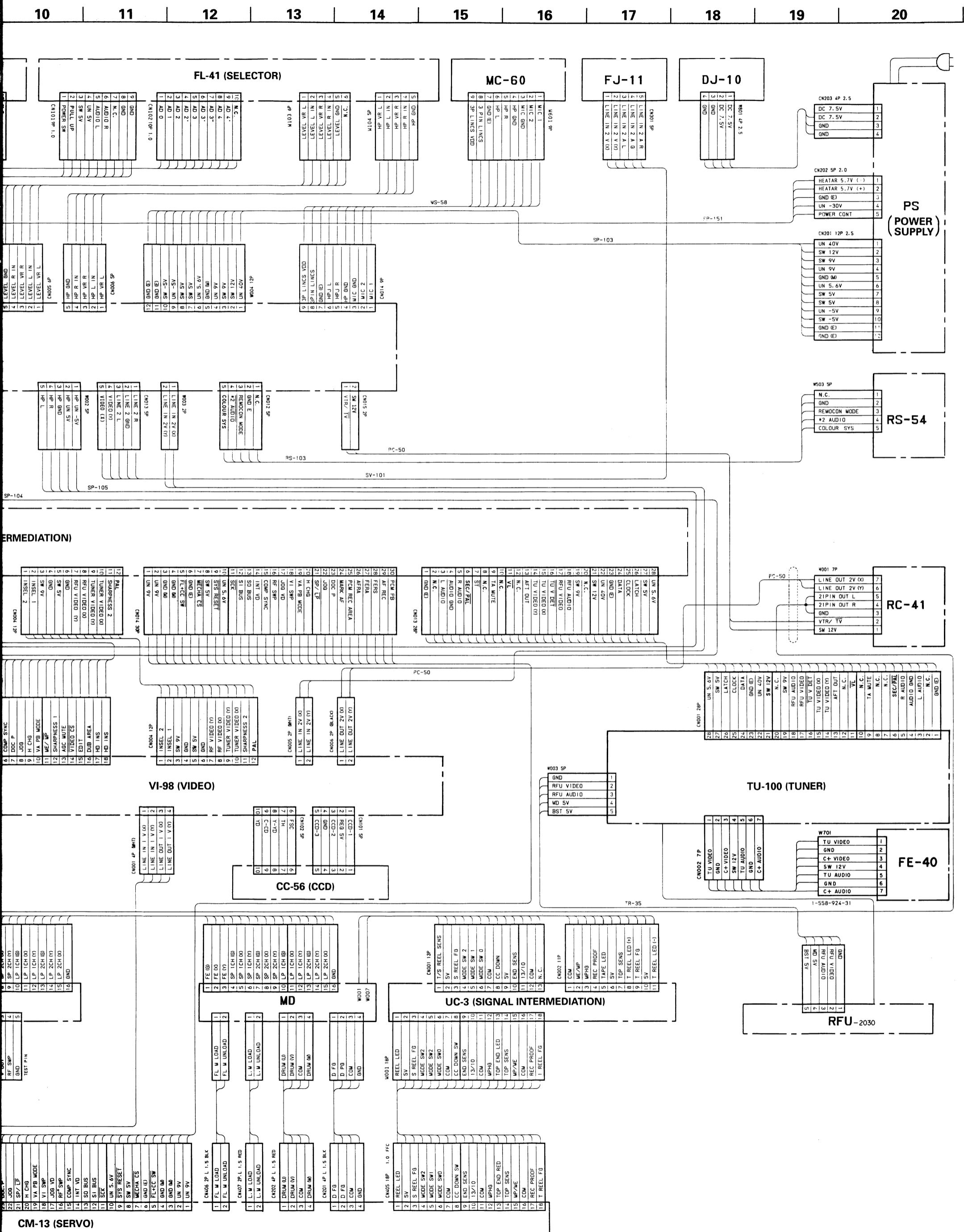
## SECTION 2

### PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

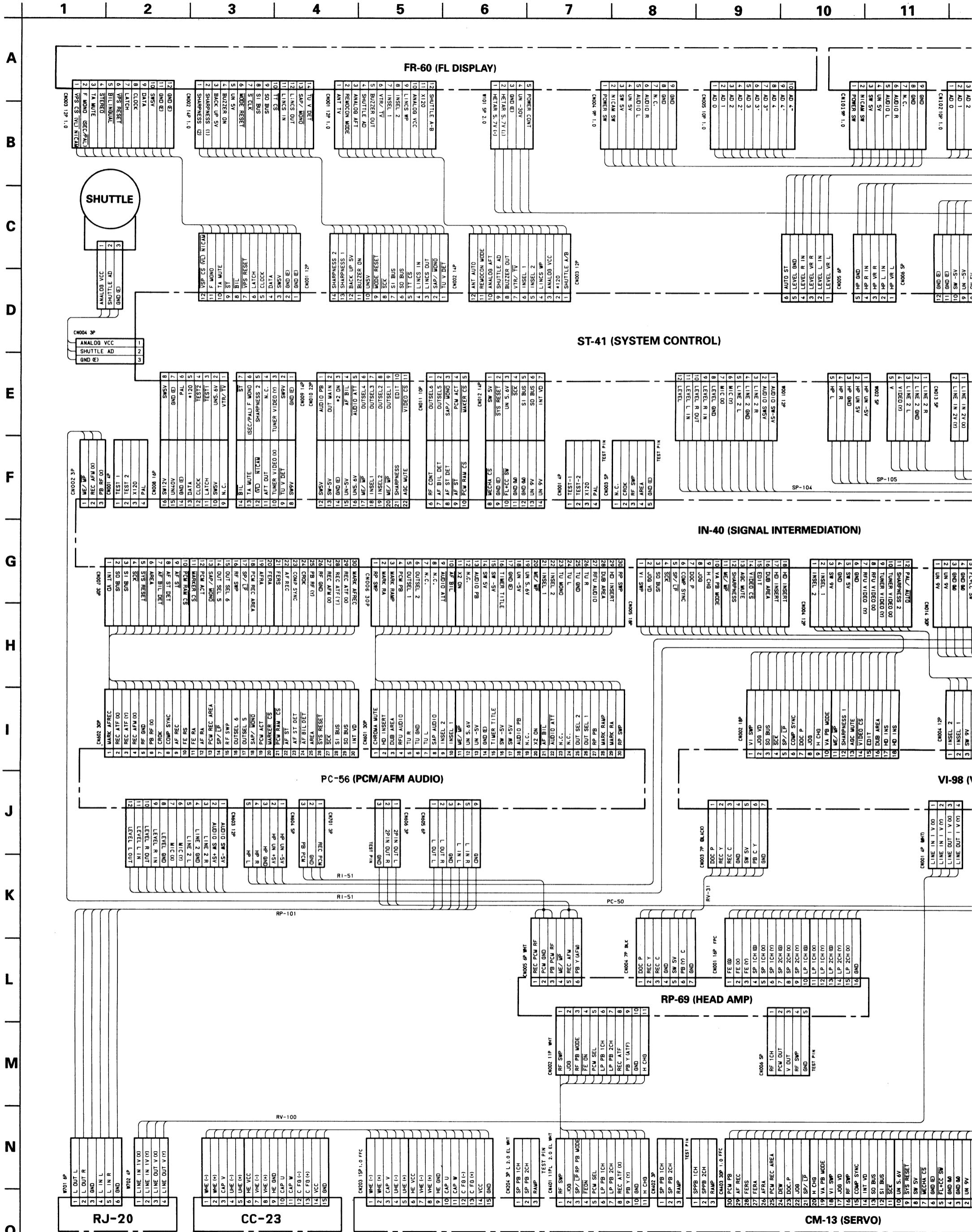
#### 2-1. FRAME SCHEMATIC DIAGRAM

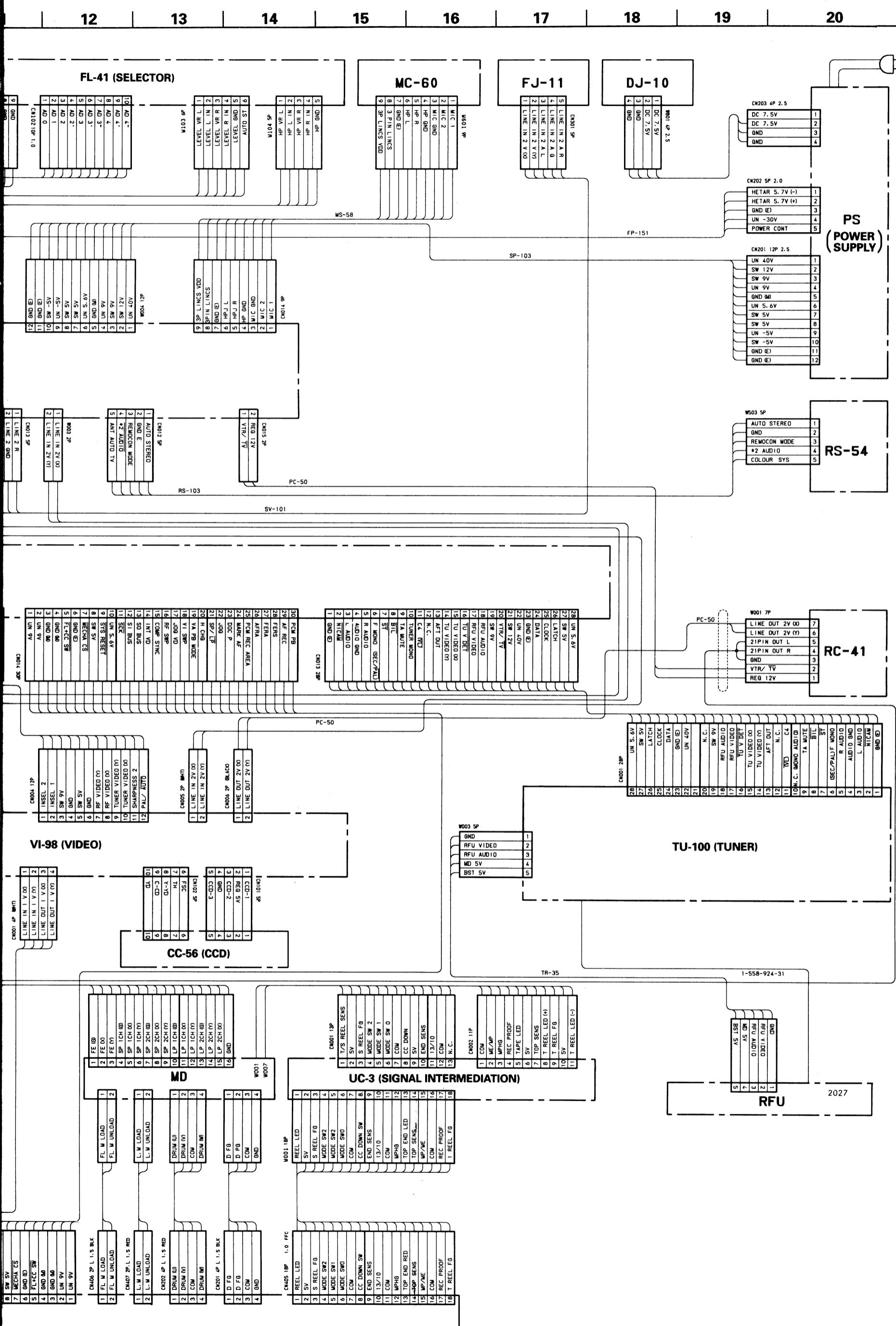
For AEP/Australian model (EV-S550E)





For French model (EV-S550B)



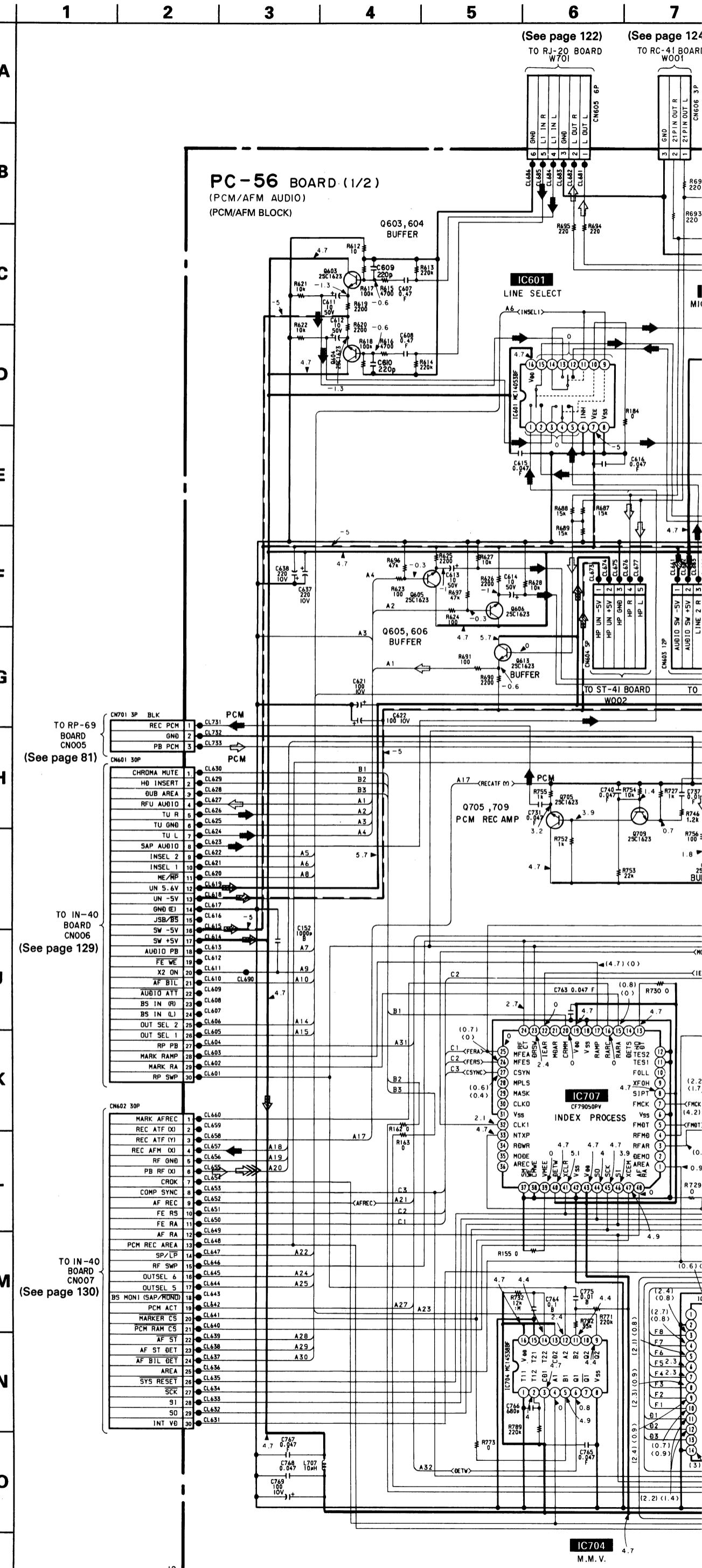


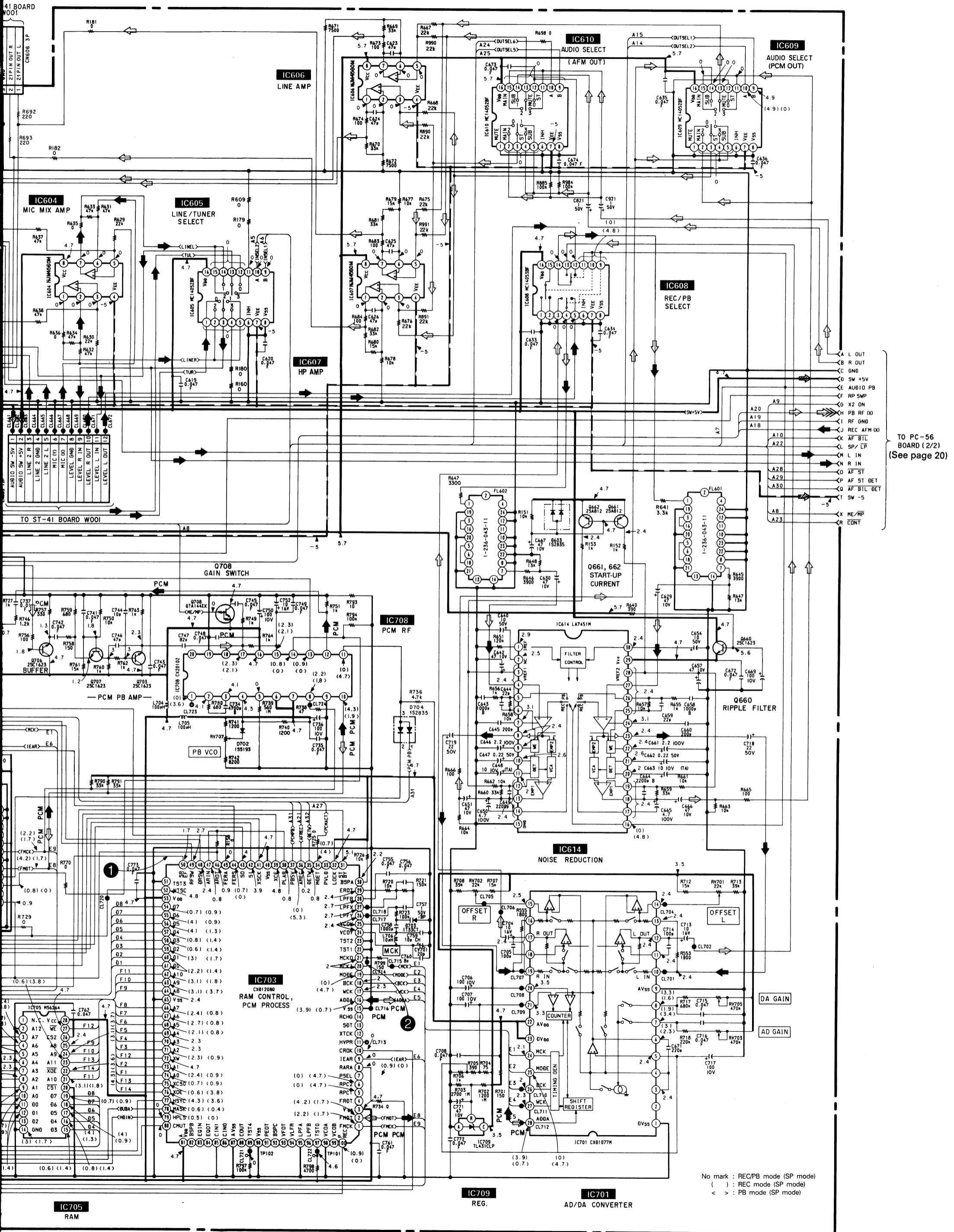
## 2-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

### PC-56 BOARD SCHEMATIC DIAGRAM

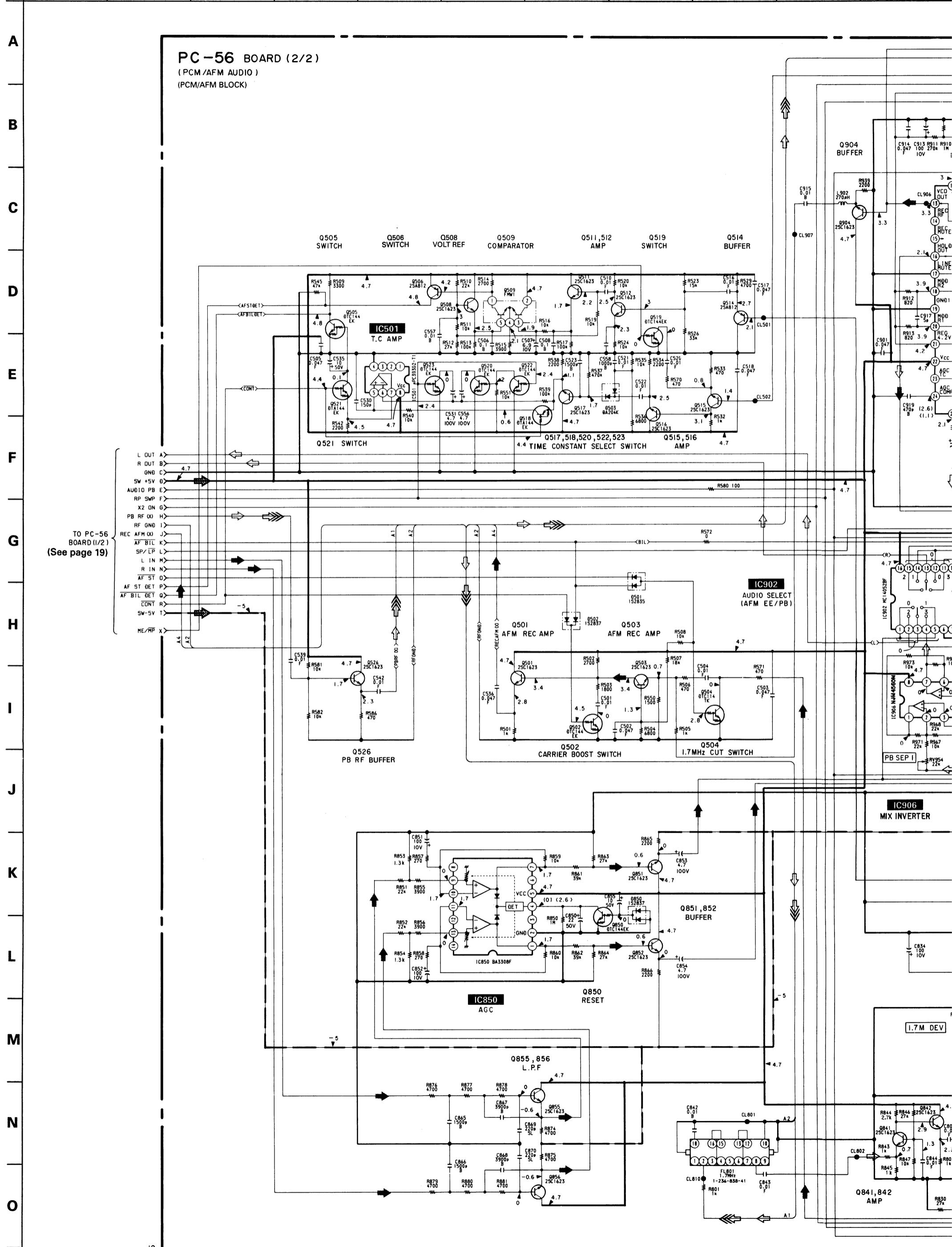
—Ref. No. PC-56 Board: 4000 series—

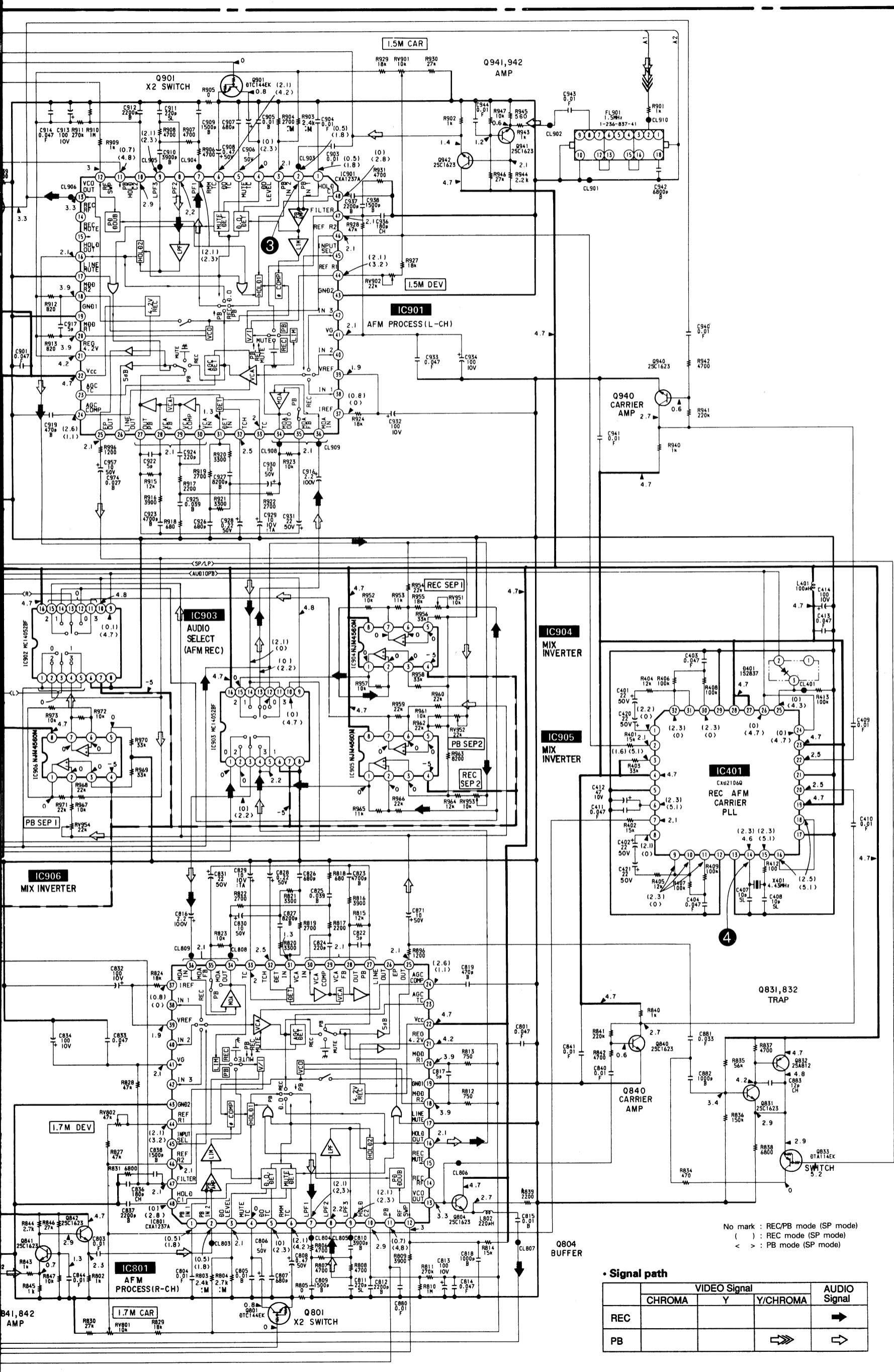
(Regarding reference pages in this diagram : See the Service Manual for EV-S550B/S550E. (Except





**1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11**



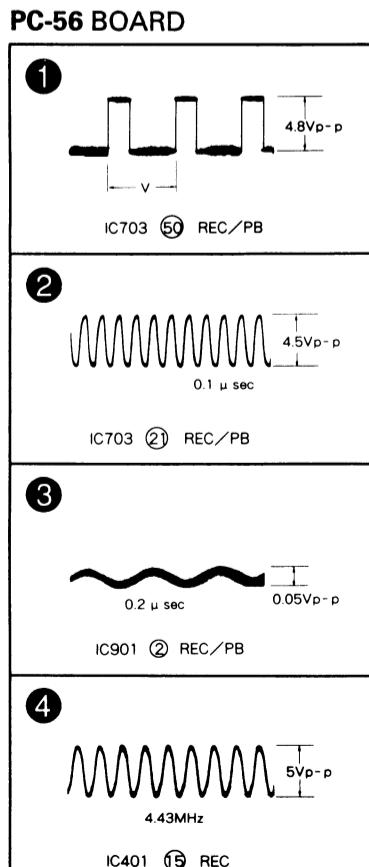


**PC-56 BOARD PRINTED WIRING BOARD**  
—Ref. No. PC-56 Board: 4000 series—

<b>Caution:</b>	
<b>Pattern face side: (Conductor side)</b>	Parts on the pattern face side seen from the pattern face are indicated.
<b>Parts face side: (Component side)</b>	Parts on the parts face side seen from the parts face are indicated.

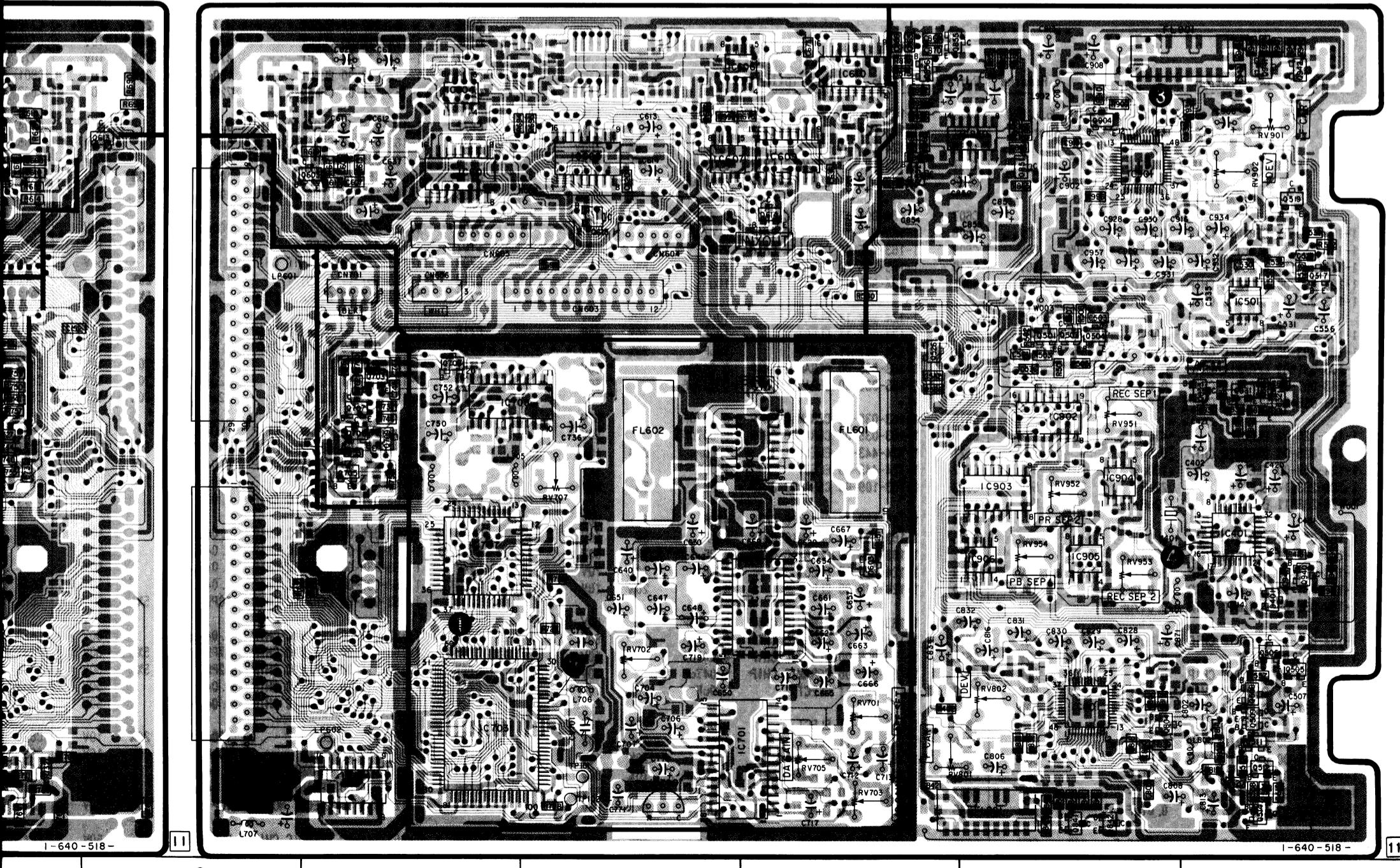
< DIODE >				IC801	8-752-033-01	IC	CXA1237AR	0526	8-729-100-66	TRANSISTOR	2SC1623
D401	8-719-400-18	DIODE	MA152WK	IC850	8-759-998-71	IC	BA3308F	0603	8-729-100-66	TRANSISTOR	2SC1623
D501	8-719-104-34	DIODE	1S2836	IC901	8-752-033-01	IC	CXA1237AR	0604	8-729-100-66	TRANSISTOR	2SC1623
D502	8-719-400-18	DIODE	MA152WK	IC902	8-759-009-06	IC	MC14052BF	0605	8-729-100-66	TRANSISTOR	2SC1623
D503	8-719-800-76	DIODE	1SS226	IC903	8-759-009-06	IC	MC14052BF	0606	8-729-100-66	TRANSISTOR	2SC1623
D603	8-719-104-34	DIODE	1S2836	IC904	8-759-981-99	IC	RC4560M	0613	8-729-100-66	TRANSISTOR	2SC1623
				IC905	8-759-981-99	IC	RC4560M	0660	8-729-100-66	TRANSISTOR	2SC1623
D702	8-719-400-18	DIODE	MA152WK	IC906	8-759-981-99	IC	RC4560M	0661	8-729-216-22	TRANSISTOR	2SA1162
D703	8-713-300-88	DIODE	1T33C-01					0662	8-729-216-22	TRANSISTOR	2SA1162
D704	8-719-104-34	DIODE	1S2836					0703	8-729-100-66	TRANSISTOR	2SC1623
D850	8-719-400-18	DIODE	MA152WK								
< IC >				0501	8-729-100-66	TRANSISTOR	2SC1623	0705	8-729-100-66	TRANSISTOR	2SC1623
IC401	8-752-334-42	IC	CXD2106Q	0502	8-729-901-01	TRANSISTOR	DTC144EK	0706	8-729-100-66	TRANSISTOR	2SC1623
IC501	8-759-100-93	IC	uPC393G2	0503	8-729-100-66	TRANSISTOR	2SC1623	0707	8-729-100-66	TRANSISTOR	2SC1623
IC601	8-759-300-71	IC	HD14053BFP	0504	8-729-902-99	TRANSISTOR	DTC114TK	0708	8-729-901-06	TRANSISTOR	DTA144EK
IC604	8-759-981-99	IC	RC4560M	0505	8-729-901-01	TRANSISTOR	DTC144EK	0709	8-729-100-66	TRANSISTOR	2SC1623
IC605	8-759-009-06	IC	MC14052BF	0506	8-729-216-22	TRANSISTOR	2SA1162	0801	8-729-901-01	TRANSISTOR	DTC144EK
IC606	8-759-981-99	IC	RC4560M	0508	8-729-100-66	TRANSISTOR	2SC1623	0804	8-729-100-66	TRANSISTOR	2SC1623
IC607	8-759-981-99	IC	RC4560M	0509	8-729-903-10	TRANSISTOR	FMW1	0831	8-729-100-66	TRANSISTOR	2SC1623
IC608	8-759-300-71	IC	HD14053BFP	0511	8-729-100-66	TRANSISTOR	2SC1623	0832	8-729-216-22	TRANSISTOR	2SA1162
IC609	8-759-009-06	IC	MC14052BF	0512	8-729-100-66	TRANSISTOR	2SC1623	0833	8-729-901-04	TRANSISTOR	DTA114EK
IC610	8-759-009-06	IC	MC14052BF	0514	8-729-216-22	TRANSISTOR	2SA1162	0840	8-729-100-66	TRANSISTOR	2SC1623
IC614	8-759-822-92	IC	LA7451M	0515	8-729-100-66	TRANSISTOR	2SC1623	0841	8-729-100-66	TRANSISTOR	2SC1623
IC701	8-752-322-57	IC	CXD1077M	0516	8-729-100-66	TRANSISTOR	2SC1623	0842	8-729-100-66	TRANSISTOR	2SC1623
IC703	8-752-332-46	IC	CXD1208Q	0517	8-729-100-66	TRANSISTOR	2SC1623	0850	8-729-901-01	TRANSISTOR	DTC144EK
IC704	8-759-009-51	IC	MC14538BF	0518	8-729-901-06	TRANSISTOR	DTA144EK	0851	8-729-100-66	TRANSISTOR	2SC1623
IC705	8-759-507-53	IC	MS6264CLL-15FC	0519	8-729-901-01	TRANSISTOR	DTC144EK	0852	8-729-100-66	TRANSISTOR	2SC1623
IC707	8-759-502-14	IC	CF79050PV	0520	8-729-901-01	TRANSISTOR	DTC144EK	0855	8-729-100-66	TRANSISTOR	2SC1623
IC708	8-752-010-20	IC	CX20102	0521	8-729-901-06	TRANSISTOR	DTA144EK	0856	8-729-100-66	TRANSISTOR	2SC1623
IC709	8-759-908-15	IC	TL431CLP	0522	8-729-901-01	TRANSISTOR	DTC144EK	0901	8-729-901-01	TRANSISTOR	DTC144EK
				0523	8-729-901-01	TRANSISTOR	DTC144EK				

## **PC-56 BOARD (CONDUCTOR SIDE)**



Q904	8-729-100-66	TRANSISTOR	2SC1623
Q940	8-729-100-66	TRANSISTOR	2SC1623
Q941	8-729-100-66	TRANSISTOR	2SC1623
Q942	8-729-100-66	TRANSISTOR	2SC1623

## **PC-56 BOARD (COMPONENT SIDE)**



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
IC801	8-752-033-01	IC CXA1237AR		Q709	8-729-100-66	TRANSISTOR	2SC1623
IC850	8-759-998-71	IC BA3308F		Q801	8-729-901-01	TRANSISTOR	DTC144EK
IC901	8-752-033-01	IC CXA1237AR		Q804	8-729-100-66	TRANSISTOR	2SC1623
IC902	8-759-009-06	IC MC14052BF		Q831	8-729-100-66	TRANSISTOR	2SC1623
IC903	8-759-009-06	IC MC14052BF		Q832	8-729-216-22	TRANSISTOR	2SA1162
IC904	8-759-981-99	IC RC4560M		Q833	8-729-901-04	TRANSISTOR	DTA114EK
IC905	8-759-981-99	IC RC4560M		Q840	8-729-100-66	TRANSISTOR	2SC1623
IC906	8-759-981-99	IC RC4560M		Q841	8-729-100-66	TRANSISTOR	2SC1623
		< COIL >		Q842	8-729-100-66	TRANSISTOR	2SC1623
L401	1-407-169-XX	INDUCTOR	100uH	Q851	8-729-100-66	TRANSISTOR	2SC1623
L704	1-407-169-XX	INDUCTOR	100uH	Q852	8-729-100-66	TRANSISTOR	2SC1623
L705	1-407-169-XX	INDUCTOR	100uH	Q855	8-729-100-66	TRANSISTOR	2SC1623
L706	1-408-970-21	INDUCTOR	10uH	Q856	8-729-100-66	TRANSISTOR	2SC1623
L707	1-408-970-21	INDUCTOR	10uH	Q901	8-729-901-01	TRANSISTOR	DTC144EK
L802	1-408-948-00	INDUCTOR	220uH	Q904	8-729-100-66	TRANSISTOR	2SC1623
L902	1-408-986-21	INDUCTOR	270uH	Q940	8-729-100-66	TRANSISTOR	2SC1623
		< TRANSISTOR >		Q941	8-729-100-66	TRANSISTOR	2SC1623
Q501	8-729-100-66	TRANSISTOR	2SC1623				< RESISTOR >
Q502	8-729-901-01	TRANSISTOR	DTC144EK	R151	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q503	8-729-100-66	TRANSISTOR	2SC1623	R152	1-216-049-00	METAL CHIP	1K 5% 1/10W
Q504	8-729-902-99	TRANSISTOR	DTC114TK	R153	1-216-049-00	METAL CHIP	1K 5% 1/10W
Q505	8-729-901-01	TRANSISTOR	DTC144EK	R155	1-216-295-00	METAL CHIP	0 5% 1/10W
Q506	8-729-216-22	TRANSISTOR	2SA1162	R158	1-216-295-00	METAL CHIP	0 5% 1/10W
Q508	8-729-100-66	TRANSISTOR	2SC1623	R162	1-216-295-00	METAL CHIP	0 5% 1/10W
Q509	8-729-903-10	TRANSISTOR	FMW1	R163	1-216-295-00	METAL CHIP	0 5% 1/10W
Q511	8-729-100-66	TRANSISTOR	2SC1623	R179	1-216-295-00	METAL CHIP	0 5% 1/10W
Q512	8-729-100-66	TRANSISTOR	2SC1623	R180	1-216-295-00	METAL CHIP	0 5% 1/10W
Q514	8-729-216-22	TRANSISTOR	2SA1162	R181	1-216-295-00	METAL CHIP	0 5% 1/10W
Q515	8-729-100-66	TRANSISTOR	2SC1623	R182	1-216-295-00	METAL CHIP	0 5% 1/10W
Q516	8-729-100-66	TRANSISTOR	2SC1623	R184	1-216-295-00	METAL CHIP	0 5% 1/10W
Q517	8-729-100-66	TRANSISTOR	2SC1623	R401	1-216-077-00	METAL CHIP	15K 5% 1/10W
Q518	8-729-901-06	TRANSISTOR	DTA144EK	R402	1-216-077-00	METAL CHIP	15K 5% 1/10W
Q519	8-729-901-01	TRANSISTOR	DTC144EK	R403	1-216-085-00	METAL CHIP	33K 5% 1/10W
Q520	8-729-901-01	TRANSISTOR	DTC144EK	R404	1-216-075-00	METAL CHIP	12K 5% 1/10W
Q521	8-729-901-06	TRANSISTOR	DTA144EK	R405	1-216-075-00	METAL CHIP	12K 5% 1/10W
Q522	8-729-901-01	TRANSISTOR	DTC144EK	R406	1-216-097-00	METAL CHIP	100K 5% 1/10W
Q523	8-729-901-01	TRANSISTOR	DTC144EK	R407	1-216-097-00	METAL CHIP	100K 5% 1/10W
Q526	8-729-100-66	TRANSISTOR	2SC1623	R408	1-216-097-00	METAL CHIP	100K 5% 1/10W
Q603	8-729-100-66	TRANSISTOR	2SC1623	R409	1-216-097-00	METAL CHIP	100K 5% 1/10W
Q604	8-729-100-66	TRANSISTOR	2SC1623	R412	1-216-025-00	METAL CHIP	100 5% 1/10W
Q605	8-729-100-66	TRANSISTOR	2SC1623	R413	1-216-097-00	METAL CHIP	100K 5% 1/10W
Q606	8-729-100-66	TRANSISTOR	2SC1623	R501	1-216-049-00	METAL CHIP	1K 5% 1/10W
Q613	8-729-100-66	TRANSISTOR	2SC1623	R502	1-216-059-00	METAL CHIP	2.7K 5% 1/10W
Q660	8-729-100-66	TRANSISTOR	2SC1623	R503	1-216-055-00	METAL CHIP	1.8K 5% 1/10W
Q661	8-729-216-22	TRANSISTOR	2SA1162	R504	1-216-069-00	METAL CHIP	6.8K 5% 1/10W
Q662	8-729-216-22	TRANSISTOR	2SA1162	R505	1-216-049-00	METAL CHIP	1K 5% 1/10W
Q703	8-729-100-66	TRANSISTOR	2SC1623	R506	1-216-041-00	METAL CHIP	470 5% 1/10W
Q705	8-729-100-66	TRANSISTOR	2SC1623	R507	1-216-079-00	METAL CHIP	18K 5% 1/10W
Q706	8-729-100-66	TRANSISTOR	2SC1623	R508	1-216-073-00	METAL CHIP	10K 5% 1/10W
Q707	8-729-100-66	TRANSISTOR	2SC1623	R509	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
Q708	8-729-901-06	TRANSISTOR	DTA144EK				

When indicating parts by reference number, please include the board name.

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Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
R510	1-216-081-00	METAL CHIP	22K 5% 1/10W	R627	1-216-073-00	METAL CHIP	10K 5% 1/10W
R511	1-216-073-00	METAL CHIP	10K 5% 1/10W	R628	1-216-073-00	METAL CHIP	10K 5% 1/10W
R512	1-216-083-00	METAL CHIP	27K 5% 1/10W	R629	1-216-081-00	METAL CHIP	22K 5% 1/10W
R513	1-216-097-00	METAL CHIP	100K 5% 1/10W	R630	1-216-081-00	METAL CHIP	22K 5% 1/10W
R514	1-216-059-00	METAL CHIP	2.7K 5% 1/10W	R631	1-216-089-00	METAL CHIP	47K 5% 1/10W
R515	1-216-063-00	METAL CHIP	3.9K 5% 1/10W	R632	1-216-089-00	METAL CHIP	47K 5% 1/10W
R516	1-216-073-00	METAL CHIP	10K 5% 1/10W	R633	1-216-089-00	METAL CHIP	47K 5% 1/10W
R517	1-216-097-00	METAL CHIP	100K 5% 1/10W	R634	1-216-089-00	METAL CHIP	47K 5% 1/10W
R519	1-216-073-00	METAL CHIP	10K 5% 1/10W	R635	1-216-295-00	METAL CHIP	0 5% 1/10W
R520	1-216-073-00	METAL CHIP	10K 5% 1/10W	R636	1-216-295-00	METAL CHIP	0 5% 1/10W
R523	1-216-077-00	METAL CHIP	15K 5% 1/10W	R637	1-216-089-00	METAL CHIP	47K 5% 1/10W
R524	1-216-073-00	METAL CHIP	10K 5% 1/10W	R638	1-216-089-00	METAL CHIP	47K 5% 1/10W
R526	1-216-085-00	METAL CHIP	33K 5% 1/10W	R640	1-216-039-00	METAL CHIP	390 5% 1/10W
R529	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R641	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
R532	1-216-049-00	METAL CHIP	1K 5% 1/10W	R642	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
R533	1-216-041-00	METAL CHIP	470 5% 1/10W	R645	1-216-063-00	METAL CHIP	3.9K 5% 1/10W
R534	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R646	1-216-063-00	METAL CHIP	3.9K 5% 1/10W
R535	1-216-073-00	METAL CHIP	10K 5% 1/10W	R647	1-216-076-00	METAL GLAZE	13K 5% 1/10W
R536	1-216-069-00	METAL CHIP	6.8K 5% 1/10W	R648	1-216-076-00	METAL GLAZE	13K 5% 1/10W
R537	1-216-113-00	METAL CHIP	470K 5% 1/10W	R651	1-216-099-00	METAL CHIP	120K 5% 1/10W
R538	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R655	1-216-049-00	METAL CHIP	1K 5% 1/10W
R539	1-216-097-00	METAL CHIP	100K 5% 1/10W	R656	1-216-049-00	METAL CHIP	1K 5% 1/10W
R540	1-216-073-00	METAL CHIP	10K 5% 1/10W	R657	1-216-073-00	METAL CHIP	10K 5% 1/10W
R542	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R658	1-216-073-00	METAL CHIP	10K 5% 1/10W
R545	1-216-089-00	METAL CHIP	47K 5% 1/10W	R659	1-216-085-00	METAL CHIP	33K 5% 1/10W
R550	1-216-053-00	METAL CHIP	1.5K 5% 1/10W	R660	1-216-085-00	METAL CHIP	33K 5% 1/10W
R551	1-216-073-00	METAL CHIP	10K 5% 1/10W	R661	1-216-073-00	METAL CHIP	10K 5% 1/10W
R553	1-216-055-00	METAL CHIP	1.8K 5% 1/10W	R662	1-216-073-00	METAL CHIP	10K 5% 1/10W
R555	1-216-055-00	METAL CHIP	1.8K 5% 1/10W	R663	1-216-073-00	METAL CHIP	10K 5% 1/10W
R570	1-216-041-00	METAL CHIP	470 5% 1/10W	R664	1-216-073-00	METAL CHIP	10K 5% 1/10W
R571	1-216-041-00	METAL CHIP	470 5% 1/10W	R665	1-216-025-00	METAL CHIP	100 5% 1/10W
R572	1-216-295-00	METAL CHIP	0 5% 1/10W	R666	1-216-025-00	METAL CHIP	100 5% 1/10W
R580	1-216-025-00	METAL CHIP	100 5% 1/10W	R667	1-216-081-00	METAL CHIP	22K 5% 1/10W
R581	1-216-073-00	METAL CHIP	10K 5% 1/10W	R668	1-216-081-00	METAL CHIP	22K 5% 1/10W
R582	1-216-073-00	METAL CHIP	10K 5% 1/10W	R669	1-216-085-00	METAL CHIP	33K 5% 1/10W
R586	1-216-041-00	METAL CHIP	470 5% 1/10W	R670	1-216-085-00	METAL CHIP	33K 5% 1/10W
R609	1-216-295-00	METAL CHIP	0 5% 1/10W	R671	1-216-070-00	METAL CHIP	7.5K 5% 1/10W
R610	1-216-295-00	METAL CHIP	0 5% 1/10W	R672	1-216-070-00	METAL CHIP	7.5K 5% 1/10W
R612	1-216-001-00	METAL CHIP	10 5% 1/10W	R673	1-216-025-00	METAL CHIP	100 5% 1/10W
R613	1-216-105-00	METAL CHIP	220K 5% 1/10W	R674	1-216-025-00	METAL CHIP	100 5% 1/10W
R614	1-216-105-00	METAL CHIP	220K 5% 1/10W	R675	1-216-081-00	METAL CHIP	22K 5% 1/10W
R615	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R676	1-216-081-00	METAL CHIP	22K 5% 1/10W
R616	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R677	1-216-073-00	METAL CHIP	10K 5% 1/10W
R617	1-216-097-00	METAL CHIP	100K 5% 1/10W	R678	1-216-073-00	METAL CHIP	10K 5% 1/10W
R618	1-216-097-00	METAL CHIP	100K 5% 1/10W	R679	1-216-077-00	METAL CHIP	15K 5% 1/10W
R619	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R680	1-216-077-00	METAL CHIP	15K 5% 1/10W
R620	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R681	1-216-085-00	METAL CHIP	33K 5% 1/10W
R621	1-216-073-00	METAL CHIP	10K 5% 1/10W	R682	1-216-085-00	METAL CHIP	33K 5% 1/10W
R622	1-216-073-00	METAL CHIP	10K 5% 1/10W	R683	1-216-025-00	METAL CHIP	100 5% 1/10W
R623	1-216-025-00	METAL CHIP	100 5% 1/10W	R684	1-216-025-00	METAL CHIP	100 5% 1/10W
R624	1-216-025-00	METAL CHIP	100 5% 1/10W	R687	1-216-077-00	METAL CHIP	15K 5% 1/10W
R625	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R688	1-216-077-00	METAL CHIP	15K 5% 1/10W
R626	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R689	1-216-077-00	METAL CHIP	15K 5% 1/10W

When indicating parts by reference number, please include the board name.

Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description			Remarks
R690	1-216-057-00	METAL CHIP	2. 2K	5%	1/10W	R764	1-216-049-00	METAL CHIP	1K	5%	1/10W
R691	1-216-025-00	METAL CHIP	100	5%	1/10W	R770	1-216-295-00	METAL CHIP	0	5%	1/10W
R692	1-216-033-00	METAL CHIP	220	5%	1/10W	R771	1-216-105-00	METAL CHIP	220K	5%	1/10W
R693	1-216-033-00	METAL CHIP	220	5%	1/10W	R773	1-216-295-00	METAL CHIP	0	5%	1/10W
R694	1-216-033-00	METAL CHIP	220	5%	1/10W	R780	1-216-045-00	METAL CHIP	680	5%	1/10W
R695	1-216-033-00	METAL CHIP	220	5%	1/10W	R789	1-216-105-00	METAL CHIP	220K	5%	1/10W
R696	1-216-089-00	METAL CHIP	47K	5%	1/10W	R790	1-216-085-00	METAL CHIP	33K	5%	1/10W
R697	1-216-089-00	METAL CHIP	47K	5%	1/10W	R791	1-216-085-00	METAL CHIP	33K	5%	1/10W
R698	1-216-295-00	METAL CHIP	0	5%	1/10W	R792	1-216-085-00	METAL CHIP	33K	5%	1/10W
R701	1-216-029-00	METAL CHIP	150	5%	1/10W	R793	1-216-001-00	METAL CHIP	10	5%	1/10W
R702	1-216-653-11	METAL CHIP	1. 2K	0.5%	1/10W	R794	1-216-097-00	METAL CHIP	100K	5%	1/10W
R703	1-216-661-11	METAL CHIP	2. 7K	0.5%	1/10W	R797	1-216-097-00	METAL CHIP	100K	5%	1/10W
R704	1-216-022-00	METAL CHIP	75	5%	1/10W	R798	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W
R705	1-216-039-00	METAL CHIP	390	5%	1/10W	R799	1-216-029-00	METAL CHIP	150	5%	1/10W
R706	1-216-049-00	METAL CHIP	1K	5%	1/10W	R801	1-216-049-00	METAL CHIP	1K	5%	1/10W
R707	1-216-077-00	METAL CHIP	15K	5%	1/10W	R802	1-216-049-00	METAL CHIP	1K	5%	1/10W
R708	1-216-748-11	METAL CHIP	39K	1%	1/10W	R803	1-216-660-11	METAL CHIP	2. 4K	0.5%	1/10W
R712	1-216-077-00	METAL CHIP	15K	5%	1/10W	R804	1-216-661-11	METAL CHIP	2. 7K	0.5%	1/10W
R713	1-216-748-11	METAL CHIP	39K	1%	1/10W	R805	1-216-295-00	METAL CHIP	0	5%	1/10W
R717	1-216-117-00	METAL CHIP	680K	5%	1/10W	R806	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W
R718	1-216-105-00	METAL CHIP	220K	5%	1/10W	R807	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W
R720	1-216-073-00	METAL CHIP	10K	5%	1/10W	R808	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W
R721	1-216-101-00	METAL CHIP	150K	5%	1/10W	R809	1-216-063-00	METAL CHIP	3. 9K	5%	1/10W
R723	1-216-097-00	METAL CHIP	100K	5%	1/10W	R810	1-216-121-00	METAL CHIP	1M	5%	1/10W
R725	1-216-295-00	METAL CHIP	0	5%	1/10W	R811	1-216-107-00	METAL CHIP	270K	5%	1/10W
R726	1-216-073-00	METAL CHIP	10K	5%	1/10W	R812	1-216-046-00	METAL CHIP	750	5%	1/10W
R727	1-216-049-00	METAL CHIP	1K	5%	1/10W	R813	1-216-046-00	METAL CHIP	750	5%	1/10W
R729	1-216-295-00	METAL CHIP	0	5%	1/10W	R814	1-216-077-00	METAL CHIP	15K	5%	1/10W
R730	1-216-295-00	METAL CHIP	0	5%	1/10W	R815	1-216-075-00	METAL CHIP	12K	5%	1/10W
R732	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	R816	1-216-063-00	METAL CHIP	3. 9K	5%	1/10W
R734	1-216-295-00	METAL CHIP	0	5%	1/10W	R817	1-216-057-00	METAL CHIP	2. 2K	5%	1/10W
R736	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W	R818	1-216-045-00	METAL CHIP	680	5%	1/10W
R738	1-216-017-00	METAL CHIP	47	5%	1/10W	R819	1-216-059-00	METAL CHIP	2. 7K	5%	1/10W
R739	1-216-645-11	METAL CHIP	560	0.5%	1/10W	R820	1-216-061-00	METAL CHIP	3. 3K	5%	1/10W
R740	1-216-051-00	METAL CHIP	1. 2K	5%	1/10W	R821	1-216-061-00	METAL CHIP	3. 3K	5%	1/10W
R741	1-216-051-00	METAL CHIP	1. 2K	5%	1/10W	R822	1-216-059-00	METAL CHIP	2. 7K	5%	1/10W
R742	1-216-071-00	METAL CHIP	8. 2K	5%	1/10W	R823	1-216-073-00	METAL CHIP	10K	5%	1/10W
R746	1-216-051-00	METAL CHIP	1. 2K	5%	1/10W	R824	1-216-079-00	METAL CHIP	18K	5%	1/10W
R749	1-216-049-00	METAL CHIP	1K	5%	1/10W	R827	1-216-089-00	METAL CHIP	47K	5%	1/10W
R750	1-216-073-00	METAL CHIP	10K	5%	1/10W	R828	1-216-089-00	METAL CHIP	47K	5%	1/10W
R751	1-216-049-00	METAL CHIP	1K	5%	1/10W	R829	1-216-079-00	METAL CHIP	18K	5%	1/10W
R752	1-216-049-00	METAL CHIP	1K	5%	1/10W	R830	1-216-083-00	METAL CHIP	27K	5%	1/10W
R753	1-216-081-00	METAL CHIP	22K	5%	1/10W	R831	1-216-069-00	METAL CHIP	6. 8K	5%	1/10W
R754	1-216-073-00	METAL CHIP	10K	5%	1/10W	R834	1-216-041-00	METAL CHIP	470	5%	1/10W
R755	1-216-049-00	METAL CHIP	1K	5%	1/10W	R835	1-216-091-00	METAL CHIP	56K	5%	1/10W
R756	1-216-025-00	METAL CHIP	100	5%	1/10W	R836	1-216-101-00	METAL CHIP	150K	5%	1/10W
R757	1-216-037-00	METAL CHIP	330	5%	1/10W	R837	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W
R758	1-216-029-00	METAL CHIP	150	5%	1/10W	R838	1-216-069-00	METAL CHIP	6. 8K	5%	1/10W
R759	1-216-045-00	METAL CHIP	680	5%	1/10W	R839	1-216-057-00	METAL CHIP	2. 2K	5%	1/10W
R760	1-216-049-00	METAL CHIP	1K	5%	1/10W	R840	1-216-049-00	METAL CHIP	1K	5%	1/10W
R761	1-216-077-00	METAL CHIP	15K	5%	1/10W	R841	1-216-105-00	METAL CHIP	220K	5%	1/10W
R762	1-216-049-00	METAL CHIP	1K	5%	1/10W	R842	1-216-065-00	METAL CHIP	4. 7K	5%	1/10W
R763	1-216-049-00	METAL CHIP	1K	5%	1/10W	R843	1-216-049-00	METAL CHIP	1K	5%	1/10W

When indicating parts by reference number, please include the board name.

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Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
R844	1-216-059-00	METAL CHIP	2.7K 5% 1/10W	R922	1-216-059-00	METAL CHIP	2.7K 5% 1/10W
R845	1-216-049-00	METAL CHIP	1K 5% 1/10W	R923	1-216-073-00	METAL CHIP	10K 5% 1/10W
R846	1-216-083-00	METAL CHIP	27K 5% 1/10W	R924	1-216-079-00	METAL CHIP	18K 5% 1/10W
R847	1-216-073-00	METAL CHIP	10K 5% 1/10W	R927	1-216-079-00	METAL CHIP	18K 5% 1/10W
R850	1-216-121-00	METAL CHIP	1M 5% 1/10W	R928	1-216-089-00	METAL CHIP	47K 5% 1/10W
R851	1-216-081-00	METAL CHIP	22K 5% 1/10W	R929	1-216-079-00	METAL CHIP	18K 5% 1/10W
R852	1-216-081-00	METAL CHIP	22K 5% 1/10W	R930	1-216-083-00	METAL CHIP	27K 5% 1/10W
R853	1-216-052-00	METAL CHIP	1.3K 5% 1/10W	R931	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R854	1-216-052-00	METAL CHIP	1.3K 5% 1/10W	R939	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R855	1-216-063-00	METAL CHIP	3.9K 5% 1/10W	R940	1-216-049-00	METAL CHIP	1K 5% 1/10W
R856	1-216-063-00	METAL CHIP	3.9K 5% 1/10W	R941	1-216-105-00	METAL CHIP	220K 5% 1/10W
R857	1-216-035-00	METAL CHIP	270 5% 1/10W	R942	1-216-065-00	METAL CHIP	4.7K 5% 1/10W
R858	1-216-035-00	METAL CHIP	270 5% 1/10W	R943	1-216-049-00	METAL CHIP	1K 5% 1/10W
R859	1-216-073-00	METAL CHIP	10K 5% 1/10W	R944	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R860	1-216-073-00	METAL CHIP	10K 5% 1/10W	R945	1-216-043-00	METAL CHIP	560 5% 1/10W
R861	1-216-748-11	METAL CHIP	39K 1% 1/10W	R946	1-216-083-00	METAL CHIP	27K 5% 1/10W
R862	1-216-748-11	METAL CHIP	39K 1% 1/10W	R947	1-216-073-00	METAL CHIP	10K 5% 1/10W
R863	1-216-083-00	METAL CHIP	27K 5% 1/10W	R952	1-216-073-00	METAL CHIP	10K 5% 1/10W
R864	1-216-083-00	METAL CHIP	27K 5% 1/10W	R953	1-216-074-00	METAL GLAZE	11K 5% 1/10W
R865	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R954	1-216-081-00	METAL CHIP	22K 5% 1/10W
R866	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R955	1-216-079-00	METAL CHIP	18K 5% 1/10W
R874	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R956	1-216-085-00	METAL CHIP	33K 5% 1/10W
R875	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R957	1-216-073-00	METAL CHIP	10K 5% 1/10W
R876	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R958	1-216-085-00	METAL CHIP	33K 5% 1/10W
R877	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R959	1-216-081-00	METAL CHIP	22K 5% 1/10W
R878	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R960	1-216-081-00	METAL CHIP	22K 5% 1/10W
R879	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R961	1-216-073-00	METAL CHIP	10K 5% 1/10W
R880	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R962	1-216-081-00	METAL CHIP	22K 5% 1/10W
R881	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R963	1-216-071-00	METAL CHIP	8.2K 5% 1/10W
R885	1-216-097-00	METAL CHIP	100K 5% 1/10W	R964	1-216-075-00	METAL CHIP	12K 5% 1/10W
R890	1-216-081-00	METAL CHIP	22K 5% 1/10W	R965	1-216-074-00	METAL GLAZE	11K 5% 1/10W
R891	1-216-081-00	METAL CHIP	22K 5% 1/10W	R966	1-216-081-00	METAL CHIP	22K 5% 1/10W
R896	1-216-051-00	METAL CHIP	1.2K 5% 1/10W	R967	1-216-073-00	METAL CHIP	10K 5% 1/10W
R901	1-216-049-00	METAL CHIP	1K 5% 1/10W	R968	1-216-081-00	METAL CHIP	22K 5% 1/10W
R902	1-216-049-00	METAL CHIP	1K 5% 1/10W	R969	1-216-085-00	METAL CHIP	33K 5% 1/10W
R903	1-216-660-11	METAL CHIP	2.4K 0.5% 1/10W	R970	1-216-085-00	METAL CHIP	33K 5% 1/10W
R904	1-216-661-11	METAL CHIP	2.7K 0.5% 1/10W	R971	1-216-081-00	METAL CHIP	22K 5% 1/10W
R905	1-216-295-00	METAL CHIP	0 5% 1/10W	R972	1-216-073-00	METAL CHIP	10K 5% 1/10W
R906	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R973	1-216-073-00	METAL CHIP	10K 5% 1/10W
R907	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R984	1-216-097-00	METAL CHIP	100K 5% 1/10W
R908	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	R990	1-216-081-00	METAL CHIP	22K 5% 1/10W
R909	1-216-049-00	METAL CHIP	1K 5% 1/10W	R991	1-216-081-00	METAL CHIP	22K 5% 1/10W
R910	1-216-121-00	METAL CHIP	1M 5% 1/10W	R996	1-216-051-00	METAL CHIP	1.2K 5% 1/10W
R911	1-216-107-00	METAL CHIP	270K 5% 1/10W				( VARIABLE RESISTOR )
R912	1-216-047-00	METAL CHIP	820 5% 1/10W				
R913	1-216-047-00	METAL CHIP	820 5% 1/10W	RV701	1-228-995-00	RES, ADJ, METAL22K	
R915	1-216-075-00	METAL CHIP	12K 5% 1/10W	RV702	1-228-995-00	RES, ADJ, METAL22K	
R916	1-216-063-00	METAL CHIP	3.9K 5% 1/10W	RV703	1-228-999-00	RES, ADJ, METAL470K	
R917	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	RV705	1-228-999-00	RES, ADJ, METAL470K	
R918	1-216-045-00	METAL CHIP	680 5% 1/10W	RV707	1-228-991-00	RES, ADJ, METAL2.2K	
R919	1-216-059-00	METAL CHIP	2.7K 5% 1/10W	RV801	1-228-994-00	RES, ADJ, METAL10K	
R920	1-216-061-00	METAL CHIP	3.3K 5% 1/10W	RV802	1-228-996-00	RES, ADJ, METAL47K	
R921	1-216-061-00	METAL CHIP	3.3K 5% 1/10W	RV901	1-228-994-00	RES, ADJ, METAL10K	

When indicating parts by reference number, please include the board name.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remarks</u>
RV902	1-228-995-00	RES, ADJ, METAL22K	
RV951	1-228-994-00	RES, ADJ, METAL10K	
RV952	1-228-995-00	RES, ADJ, METAL22K	
RV953	1-228-994-00	RES, ADJ, METAL10K	
RV954	1-228-995-00	RES, ADJ, METAL22K	

&lt; CRYSTAL &gt;

X401 1-567-504-11 OSCILLATOR, CRYSTAL (4.43MHz)

When indicating parts by reference number, please include the board name.
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**EV-S550B/S550E**  
**RMT-456**

**9-973-090-82**

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Home Video Group

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